ESSAYS ON HISPANIC INTEGRATION INTO AMERICAN SOCIETY

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Richard Neil Turner

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Richard Neil Turner, PhD

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Due to rapid expansion in size of the Hispanic American population, Latinos are exerting an ever growing influence on the economy and culture of the United States. At the same time, their own views and lifestyles are being reshaped by exposure to the rest of American society. Hispanics' patterns of adjustment to and interaction with the surrounding environment are sure to have important implications for the group's long-term socioeconomic attainment as well as for general societal well-being. In light of the salience of the issues involved, this dissertation explores in-depth a few specific facets of the process of Hispanic incorporation into American society. Chapter 1 focuses on how compositional factors (e.g. women's economic resources, mate availability) affect the marriage rates of Mexican Americans and Puerto Ricans relative to those of non-Hispanic whites and blacks. Chapter 2 examines whether the migration of Latino workers to rural areas with burgeoning Hispanic populations impinges on the economic outcomes of established residents. Chapter 3 investigates patterns of occupational segregation by ethnicity in the rural South to gauge labor market competition between Latino migrants and the region's longer-settled groups. The three studies yield several noteworthy findings. Chapter 1 documents that Mexican American and white women marry at rates well above those of Puerto Rican and, especially, African American women. In addition, the results suggest that Latinas' limited economic resources reduce their likelihood of marrying vis-à-vis whites and blacks, while their larger supply of stably employed men and higher probability of being foreign-born raise their comparative marriage odds. Chapter 2 provides evidence that growth in the Latino share of the workforce in new rural destinations leads to somewhat less desirable income and poverty

trajectories for non-Hispanics. Chapter 3 shows that Hispanics in the rural South experience a large degree of occupational segregation from whites and African Americans and rank below both of these groups in occupational status on average. Furthermore, low levels of English proficiency, US citizenship, and educational attainment largely account for the disadvantaged labor market position of Hispanic workers.

BIOGRAPHICAL SKETCH

Richard Turner was born in Richmond, Virginia in 1983. He entered the College of William and Mary in the fall of 2002 and graduated four years later (summa cum laude) with a BA in public policy. Richard subsequently enrolled in Cornell University's Policy Analysis and Management PhD program, concentrating in family and social welfare policy. Between 2009 and the completion of his doctoral studies, he served as a research assistant to Professor Daniel T. Lichter with responsibilities that included the statistical analysis of demographic datasets, such as the American Community Survey and the National Survey of Family Growth. During this time, Richard's scholarly interests came to center on social demography, immigration, poverty, and family formation. He successfully defended his dissertation in May 2012.

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Richard N. Turner

Cornell University

Abstract

Ethnic differences in marriage rates have drawn the attention of scholars and policymakers in light of research linking family formation processes to the well-being of children and adults. Although previous work has extensively explored the social and economic underpinnings of the white-black marriage gap, few studies have examined the demographic sources of Hispanic marriage patterns. For this paper, the concatenated 2008 and 2009 files of the *American Community Survey* (ACS) and formal regression decomposition techniques are used to quantify the contribution of Anglo-Hispanic differences in women's economic resources, mate availability, cultural incorporation, and premarital fertility to corresponding disparities in the expected log odds of first marriage. Mexican American and Puerto Rican women are compared to their non-Hispanic white and black counterparts. The analysis yields several key findings regarding contemporary patterns of union formation. First, Mexican Americans and whites marry at similar rates, African Americans are approximately half as likely as these groups to form a marital union, and Puerto Ricans have intermediate marriage levels. Second, the regression results suggest that the process of marriage formation does not vary greatly by ethnicity; education, professional employment, the availability of men with stable employment, foreign-born status, and a premarital birth are all positively associated with the odds of marriage across groups. Third, regression decomposition analyses indicate that Mexican American and Puerto Rican women's low average educational and occupational attainment reduce their marriage prospects relative to both white and black women. Nevertheless, these effects seem to be offset by Latinas' superior marriage market opportunities and their much higher probability of being foreign-born.

Demographic Sources of Marriage Rate Differences between Anglo and Hispanic Women

Racial and ethnic differences in marriage rates have attracted the attention of scholars, policymakers, and the general public (Banks & Gatlin, 2005; Raley & Sweeney, 2009). The salience of delayed marriage derives from the associated increases in the likelihood of nonmarital births and the formation of single-parent families. Children raised by one parent experience poorer social and economic outcomes on average than children reared in stable, two-parent households (Waite & Gallagher, 2000). Ethnic variation in nuptiality thus has the potential to aggravate group stratification in socioeconomic attainment. A general finding that emerges from the literature on this topic is that African Americans are less likely than whites to marry (Raley & Sweeney, 2009). In addition, disparities between whites and blacks in economic and demographic characteristics thought to play a role in marriage formation (e.g. mate availability, welfare receipt) account for only a portion of this gap, suggesting perhaps the influence of cultural or other factors (Lichter, McLaughlin, Kephart, & Landry, 1992; South & Lloyd, 1992).

Despite the dramatic growth of the Hispanic population in recent decades, few studies have compared their family formation patterns to those of other ethnoracial groups. Nevertheless, some basic facts about Latino nuptiality have been established. First, the marriage rates of Mexican Americans (i.e. all people of Mexican origin living in the US) are close to those of non-Hispanic whites, even though the former suffer from higher unemployment and lower wages (Oropesa, Lichter, & Anderson, 1994, pp. 889-892). Second, like African Americans, mainland Puerto Ricans (hereafter "Puerto Ricans") have a substantially lower marriage incidence than other Hispanic nationalities (Lloyd, 2006, p. 1006) and non-Hispanic whites (Oropesa, 1996, p. 50). The family formation patterns of Latinos are thus complex and heterogeneous.

There are significant limitations to the research which has been conducted on Anglo-Hispanic marriage differences. First, most studies have relied on older datasets collected in the 1980s and 1990s. In this period of fast-paced social and cultural change, previous work may be of diminishing value for understanding contemporary sources of marriage differentials. Second, no prior studies have provided *numeric* estimates of the contribution of compositional differences to disparities between Anglos and Hispanics in nuptiality. Instead, they have presented results from regressions pooling data on multiple groups. Third, there has not been a separate investigation of differences in marriage timing between non-Mexican Hispanic nationalities (e.g. Puerto Ricans) and Anglo populations. Utilizing the concatenated 2008 and 2009 files of the American Community Survey (ACS), the current paper attempts to fill in these gaps. It focuses on the marriage patterns of Mexican American and Puerto Rican women in relation to those of Anglo whites and blacks (hereafter "whites" and "blacks"). Following current theory and research on the sources of nuptiality, the effects of four factors on ethnic differentials in rates of marriage are examined: women's economic resources, mate availability, cultural incorporation, and premarital fertility. A binary logistic regression of marriage occurrence over the past year is run for each ethnicity. Formal decomposition techniques (see Jones & Kelley, 1984) are then applied to quantify the amount by which gaps in the expected log odds of marriage between each Hispanic group and whites and blacks would increase or decrease if compositional differences were eliminated. The results provide a comprehensive picture of the demographic underpinnings of Hispanic marriage formation.

BACKGROUND

Studies of union formation conducted prior to the 1990s tended to focus on the causes and consequences of early marriage, which was viewed with concern because of observed

associations with higher fertility and risk of divorce as well as reduced educational and occupational attainment. The orientation of nuptiality research has since shifted in response to a sharp rise in the age at marriage. This trend is significant from a policy standpoint because delayed marriage often raises the likelihood of out-of-wedlock births and the formation of single-parent families (Landale, 1994, pp. 134-135). Evidence has accumulated that families headed by one parent increase the risk of negative social outcomes. First, single mother households are much more likely to suffer economic deprivation than two parent households. According to the American Community Survey, the poverty rate of families headed by a single woman with related children under 18 present was approximately 39.6 percent in 2010, compared to just 8.4 percent for married couple families. Furthermore, the short- and long-term well-being of children appears to be adversely affected. According to Waite and Gallagher (2000),

> …[c]hildren raised in single-parent households are, on average, more likely to be poor, to have health problems and psychological disorders, to commit crimes and exhibit other conduct disorders, have somewhat poorer relationships with both family and peers, and as adults eventually get fewer years of education and enjoy less stable marriages and lower occupational statuses than children whose parents got and stay married. (p. 125)

Forgoing marriage seems to also have negative repercussions for adults. On average, single men and women fare worse in terms of physical and mental health, longevity, and earnings than do married people (Waite & Gallagher, 2000).

The substantial differences between whites and blacks in the "retreat from marriage" and their potential deleterious implications have motivated a considerable amount of research on racial gaps in nuptiality (Landale, 1994, pp. 134-135). This work generally finds that African Americans are significantly less likely to marry than are whites. For example, projections

suggest that 93 percent of white women born in the early 1960s will likely marry compared to only 64 percent of black women in this cohort (Raley & Sweeney, 2009, p. 132-133). A leading explanation for the nuptiality differential focuses on racial variation in mate availability (Wilson, 1987). According to this argument, the low employment levels of urban black males heavily restrict black women's supply of potential spouses and thereby reduce their marriage rates. Researchers find that white-black disparities in mate availability are partly responsible for differences between the groups in nuptiality, but the effects are typically modest. This factor appears to explain no more than 20 percent of the racial marriage gap (Raley & Sweeney, 2009, p. 133). Furthermore, social and economic composition variables taken together can account for only a portion of the nuptiality differential (Lichter, LeClere, & McLaughlin, 1991; Lichter et al., 1992), which suggests that cultural variation may play a role in generating the pattern.

Fewer studies have been conducted on nuptiality differences between Hispanic and Anglo ethnic groups. What is known is that the marriage rates of Mexican American women are similar to or even higher than those of white women (Landale, Schoen, & Daniels, 2010; Oropesa et al., 1994; Raley, Durden, & Wildsmith, 2004). This finding is surprising given the argument that low union formation levels among blacks are due to economic disadvantage. One might expect Mexican Americans to be less likely than whites to marry because they are disproportionately of low socioeconomic status. Indeed, according to the 1996-1999 Current Population Survey (CPS), foreign-born Mexican American men earn less than half, and their second and third generation co-ethnics roughly three fourths, of what third generation whites of the same age do (Grogger & Trejo, 2002, p. 22).

This unexpected coincidence of limited economic resources and high marriage rates among people of Mexican heritage has been referred to as the "paradox of Mexican American

nuptiality." The pattern is sometimes attributed to Mexican culture's traditional notions of kinship, known as "familism", which place the needs of the family over those of the individual and attach great importance to marriage and motherhood. The pronuptial influence of familism might compensate for any negative effects that economic disadvantage has on Mexican American marriage rates (Oropesa et al., 1994).

In contrast to Mexican Americans, Puerto Ricans are considerably less likely to marry than are whites. For instance, in 1990, 65 percent of white women at least 25 years old were ever married as opposed to 56 percent of Puerto Rican women (Oropesa, 1996, p. 50). In addition, cohabiting Puerto Rican couples have a lower probability of transitioning into marriage than their white counterparts (Landale & Forste, 1991, p.593). These nuptiality differentials are consistent with the low socioeconomic position of most Puerto Ricans. They have higher rates of unemployment, poverty, and welfare receipt than any other Hispanic nationality (Landale & Forste, 1991, pp. 588-590).

The goal of the present study is to improve understanding of Hispanic marriage patterns by investigating the influence of variation in average demographic characteristics on marriage rate differences between Anglo and Hispanic women. Informed by past theorization and research on union formation, the primary focus is the effect of women's economic resources, mate availability, cultural incorporation, and premarital fertility on ethnic gaps in nuptiality. The 2008 and 2009 files of the *American Community Survey* provide data on past-year marriage transitions for the U.S. population, including the two largest Hispanic national-origin groups in the US, Mexican Americans and Puerto Ricans. With this information, their marital behaviors can be compared with those of whites and blacks.

Whites are a logical reference category because, as the majority population, they represent mainstream American society in important respects. Indeed classical assimilation theory regards them as the group with which all others have a tendency to socially converge (Gordon, 1964). On the other hand, black-Hispanic differences are of interest because of the social and economic parallels between these two ethnicities; both are minorities with a long history of experiencing economic disadvantage and racial prejudice.

The demographic underpinnings of Latinas' marriage rates merit attention because of the importance of nuptiality to Hispanic social and economic attainment. Research on the effects of family structure suggests that marriage and the establishment of stable, two parent households facilitate the transfer of human capital between generations and, by extension, promote upward economic mobility. For this reason, Hispanic marriage patterns surely have major influence in determining whether this rapidly growing group achieves parity with the white Anglo majority and is incorporated into the social and economic mainstream of American society. Knowledge of which factors aid and impede the formation of marital unions by Latinas should be of value to policymakers and others who are concerned about the future course of Hispanics and ethnic stratification within the US.

This issue is also important from a broader societal perspective. National marriage and family structure trends increasingly reflect those of the Hispanic population because of its rapid growth. Data from the most recent Decennial Census reveals that in 2010 Latinos represented 16.3 percent of the total US population, or approximately 50 million individuals, making them the country's largest ethnoracial minority. This is a marked increase from 2000, when they constituted 12.5 percent of the U.S. population. Hispanics are younger on average than non-Hispanic whites or African Americas and overrepresented among adults in their prime marrying

and childbearing years. According to the 2009 *American Community Survey*, approximately one in five Americans between the ages of 20 and 35 is Latino. Thus, a comprehensive understanding of the overall trajectory of family life in the US increasingly depends on knowledge of Hispanic marriage dynamics.

THEORIES OF NUPTIALITY

Decomposition of marriage rate differentials first requires identification of variables that affect the likelihood of getting married. Theory and research suggests that union formation is a function of both individual-level and structural conditions. Four of these factors that have received a substantial amount of attention from family scholars are women's economic resources, mate availability, cultural orientations to family, and premarital fertility.

Women's economic resources. Existing theories offer conflicting accounts of the relationship between women's possession of economic resources and their probability of getting married. Becker's (1981) highly influential "specialization and trading" model implies that female employment and earnings reduce the odds. According to Becker, two people get married when both believe they are going to be better off married than single, and marriage tends to be mutually beneficial when each party has something different to trade. The greatest payoff occurs when husbands specialize in paid market work and wives in domestic tasks - their respective comparative advantages. Rising labor force participation and earnings on women's part diminish the specialization gains offered by marriage and so are predicted to reduce marriage rates.

Consistent with these suppositions, older area-level studies document a negative association between women's human capital and marriage prevalence. However, this body of work has been criticized on the grounds that aggregate relationships between economic circumstances and marriage may not correspond to individual-level associations between these

variables. Furthermore, the estimated coefficients could suffer from simultaneity and omitted variable bias (Sweeney, 2002, p. 135). In fact, individual-level studies conducted more recently indicate that women's economic resources encourage marriage formation (e.g. Landale & Forste, 1991; Lichter et al., 1992; Lloyd, 2006; McLaughlin & Lichter, 1997).

These findings are in line with demographic theories of marriage, which typically focus on the material pre-requisites of forming a union rather than the gains from the spousal division of labor (Sweeney, 2002, p. 112). Oppenheimer's (1988) "career-entry" model, a prominent example, posits that marriage timing depends on being able to find a member of the opposite sex with desired present and future attributes. Economic considerations figure prominently in the search for a spouse. Earnings provide the resources with which a new household can be established. Furthermore, the transition into a stable adult career allows for a more reliable assessment of what the couple's long-term class status would be if they married (Oppenheimer, 1988, pp. 565-574). Extending Oppenheimer's work, Sweeney (2002) theorizes that women's economic resources have become increasingly critical to the establishment of marital unions. In periods when wives are not expected to work outside the home, men's economic situation is the primary determinant of whether a marriage occurs. When female labor force participation rises, though, a greater symmetry develops between the sexes in the importance of economic position to the marriage decision. Women's suitability as a spouse is increasingly evaluated in terms of their current economic circumstances as well as future prospects; non-monetary considerations such as physical attractiveness and family background become less important. Sweeney suggests that because of major social changes that have occurred since the 1960s – liberalizing attitudes towards gender roles, increases in female labor force participation and income, and shifting

consumption patterns - women's economic standing has grown more important (Sweeney, 2002, pp. 133-139).

Previous studies reveal that Hispanic women possess less human capital and fewer economic resources than white women (e.g. Duncan, Hotz, & Trejo, 2006; Lichter, Graefe, & Brown, 2003; Lloyd, 2006; Oropesa et al., 1994). For instance, Duncan et al. (2006) find that Mexican American and Puerto Rican females 25 to 59 years old in 2000 averaged 10.1 and 12.0 years of schooling, respectively, while the average native-born white woman had 13.6 years (p. 230). Mexican American and Puerto Rican women also appear to have lower education, employment, and earnings levels than African American women (Duncan et al., 2006). The implications of these compositional differences for Anglo-Hispanic nuptiality differentials depend on the nature of the relationship between economic resources and marriage. Becker's (1981) model implies that Hispanic women's economic disadvantages improve their marriage rates relative to those of non-Hispanic women because they render Latinas more suited to a specialized domestic role and thereby increase their returns to marriage. On the other hand, Sweeney's (2002) model suggests that Hispanic women's economic circumstances reduce their marriage rates by depriving them of the money required to set up and maintain an independent household.

Mate availability. Marriage market theory holds that women's probability of getting married depends on the quantity and economic characteristics of single men in their local area. Males with more economic resources are preferred as spouses because they are better suited to assuming the husband's traditional role as financial provider. When men with preferred attributes (e.g. good jobs) are in short supply, women will have a more difficult time finding a

mate. Some will be forced to delay marriage or settle for a partner with less desirable traits (Lloyd, 2006, p. 998).

A prominent example of the application of this concept is Wilson and Neckerman's (1987) analysis of declines in black women's marriage rates. They suggest that contractions in the employment levels of black men are the primary factor responsible for the trend. To test their hypothesis, they track changes for whites and non-whites (mostly African American) in the male marriageable pool index (MMPI), which is measured by the number of employed men per 100 women of the same age-group and race. Supporting their argument, the MMPI of younger non-whites declined substantially between 1950 and 1980 but remained steady or increased for whites (Wilson, 1987, pp. 73-89).

Research indicates that Hispanic women's supply of marriageable men is intermediate to white and black levels. Latinas have less access to employed, same-ethnicity males than white women, but their marital opportunities typically exceed those of black women (Lloyd, 2006; Oropesa et al., 1994). Racial differences in "economically-attractive" men to marry presumably decrease Hispanics' odds of marriage relative to whites but widen their advantage over African Americans in marriage incidence.

Cultural orientations to family. The inability of economic variables to account for group differences in marriage behavior has focused attention on the influences of culture on nuptiality. For instance, Morgan, McDaniel, and Miller (1993) argue that black Americans' low marriage levels might be located in traditions originating in Africa which emphasize consanguineous kinship ties over the marital bond. Likewise, Mexican Americans' high marriage rates have been attributed to a body of traditional Mexican ideas about kin relations known as "familism" (Raley et al., 2004, p. 874). According to Landale and Oropesa (2007): "Familism refers to a collective

orientation, as opposed to an individualistic orientation; it implies that family roles are highly valued and family members are oriented more toward the needs of the family unit (broadly defined) than to their individual desires" (p. 396). A central aspect of Mexican familism is the great importance given to marriage and traditional gender roles. The embrace of domestic responsibilities in order to maintain the family unit is regarded as women's chief goal in life. Consequently, females steeped in this culture tend to define themselves in terms of their husbands and children (Raley et al., 2004, p. 874; Guendelman, Malin, Herr-Harthorn, & Vargas, 2001, p. 1806).

These attitudes extend into the United States. Blea (1992) writes that marriage is the primary life objective for Mexican American women regardless of social class (p. 72). Mexican American women express significantly greater support for the statement "It's better to get married than go through life being single" than do white women (Oropesa, 1996, p. 54). Girls of Mexican heritage anticipate marrying earlier than girls of other ethnicities (Raley et al., 2004, p. 873).

Variation in cultural orientation towards marriage can be captured with measures of cultural incorporation. Classical assimilation theory, which is based on the experiences of European migrants to the US and their descendants, posits that acculturation is likely to be the first stage in a minority's integration into US society. Newly-arrived groups gradually adopt the language and behaviors of the white Anglo middle class majority. First generation immigrants are unlikely to assimilate fully. However, the second and third generations grow up with greater exposure to native English speakers and American values through the schooling system and mass media. Under these conditions, cultural values with origins in the sending countries are soon overshadowed. Nevertheless, acculturation does not necessarily lead to structural assimilation,

the formation of primary relationships between the immigrant group and the majority population, which is seen as the linchpin of the assimilation process (Gordon, 1964, pp. 68-83, 107).

Assimilation theory suggests that Hispanics with deeper exposure to American society and institutions are less likely to hold familistic values. In all probability, they have internalized individualistic Anglo American views on marriage and family more completely than their foreign-born counterparts and should have lower marriage rates as a result. Variables denoting time spent in the US (e.g. foreign-born status, English proficiency) may be interpreted as measuring cultural incorporation and the adoption of liberal family values.

Of course, factors other than culture also contribute to observed generational differences in the probability of marrying. For example, the process of migration itself can affect marital behavior. Recent immigrants in many cases obtain lower returns to education and work experience than the native-born, enjoy fewer legal and social privileges, and might face uncertainties relating to being an undocumented resident. Often having limited access to community-based support (especially among women), they may look to marriage as a way of coping with these challenging conditions (Brown, Van Hook, & Glick, 2008, p. 533). Thus, nativity differentials cannot be uncritically interpreted as a reflection of cultural assimilation.

Hispanics have relatively low levels of incorporation. Approximately 40 percent of Mexican Americans and one third of Puerto Ricans were born outside of the 50 states and the District of Columbia. These figures far exceed the proportion of all Americans who are foreign-born (13 percent) (Pew, 2009a, p. 1; Pew, 2009b, p. 3). Since less assimilated Hispanics are thought to adhere more strongly to the pronuptial values of familism, ethnic differences in cultural incorporation levels likely favor higher Latino marriage rates.

Premarital fertility. Out-of-wedlock childbearing is another potential determinant of marriage that has drawn the attention of researchers. A nonmarital birth could either encourage or discourage marriage. On the one hand, a mother may be viewed as an attractive marriage partner by the biological father as well as men who wish to immediately assume a parent role or to raise children who are past infancy (Bennett, Bloom, & Miller, 1995, p. 48). On the other hand, women with a nonmarital birth may have less time and money to search for a spouse because of childcare responsibilities. Furthermore, some men surely avoid marriage with mothers because they neither want to share the attention of their wife nor to assume new parental responsibilities (including financial obligations). In addition, a stigma might still exist to marrying a woman who had a birth out-of-wedlock (Lichter & Graefe, 1999). Existing studies, taken together, strongly indicate that the overall effect of nonmarital childbearing is to reduce women's chances of marrying (Bennett et al., 1995; Graefe & Lichter, 2002; Lichter & Graefe, 1999).

Using data from the 1995 National Survey of Family Growth (NSFG), Raley et al. (2004) find that that US-born Mexican American women are more than twice as likely as white women to have a premarital birth (22 versus 10 percent) (p. 883). Premarital fertility is also likely to be more common among Puerto Rican women since over one half of the births to this population (59 percent in 2000-2001) occur outside of marriage (Landale & Oropesa, 2007, p. 388). In consideration of these patterns and the research documenting negative relationships between out-of-wedlock childbearing and marriage formation, it seems probable that variation in premarital fertility levels reduce the marriage rates of Mexican American and Puerto Rican women in comparison to white women.

HISPANIC MARRIAGE PATTERNS

Though the literature on Hispanic marriage patterns is small, some important work has been conducted in this area. The first major study – Oropesa et al. (1994) - investigated the "paradox of Mexican American nuptiality" discussed above. Pooling data on white and Mexican-origin women, the authors regress marriage occurrence on economic, family background, mate availability, and attitudinal measures. Interestingly, the two groups do not differ significantly in the likelihood of marrying before or after these factors are controlled for. None of the variables included in the analysis is found to suppress white-Mexican nuptiality differences.

Other work (Landale et al., 2010; Lloyd, 2006; Raley et al., 2004) has identified potential social and demographic influences on marriage differentials between Anglos and Hispanics. This research suggests that Latinas' economic disadvantages tend to decrease their marriage rates in relation to whites while other characteristics reflective of low socioeconomic status, in particular those relating to family background, increase them. Raley et al. (2004) examine differences in marriage incidence between US-born Mexican American women and white women. Like Oropesa et al. (1994), they find no significant nuptiality gap in the absence of controls. Nevertheless, the results indicate that the limited educational attainment of Mexican American women reduces their marriage odds in comparison to whites. On the other hand, Mexican-origin respondents' lower average parental education and school enrollment levels improve their relative likelihood of forming a union (Raley et al., 2004, pp. 883-887).

Lloyd (2006) investigates the marriage gap between white women and Latinas (of any nationality). A baseline model reveals that white women have 22 percent greater odds of getting married than their Hispanic counterparts after controlling for age and family background

characteristics. However, group variation in the employment levels of local, co-ethnic men (a variable which Hispanic women score lower on) explains this difference (Lloyd, 2006, pp. 1003-1009).

Landale et al. (2010) analyze ethnic differences in family formation among young women. They find that Mexican immigrants have over twice the odds of marrying as a first family transition (as opposed to giving birth or entering into a cohabiting union) that whites do, but second and third generation Mexican Americans do not differ significantly from whites in this respect - a pattern seemingly indicative of cultural assimilation. Low maternal education and family income appear to be partly responsible for the first generation's high marriage rates (Landale et al., 2010, pp. 460-464).

The evidence is mixed regarding whether Mexican-origin individuals are more likely to marry because they possess familistic values. Raley et al. (2004) note that immigrants, because they represent a large share of the Mexican American population, are to a significant degree responsible for the high marriage rates observed among America's Mexican-origin population. The authors suggest based on marriage prevalence data from the US and Mexico that foreign-born Mexican Americans have greater odds of marriage because they are positively selected on nuptiality or because the settlement experience encourages marriage (as opposed to pronuptial attitudes). For this reason, they exclude Mexican immigrants from their analysis. After social and economic characteristics are controlled for, US-born Mexican American women are only 85 percent as likely to marry as whites. In light of these results, the authors conclude that there is no need to look to familism as an explanation for the parity between Mexican American and white marriage rates (Raley et al., 2004, pp. 883-886). However, there is also empirical support for the familism hypothesis. Landale et al. (2010) find that Mexican immigrant women are more

likely to get married in part because they possess more favorable views of early marriage (p. 461).

RESEARCH OBJECTIVES

Utilizing the 2008 and 2009 files of the *American Community Survey*, this paper seeks to identify the relationship between variation in average demographic characteristics and differences between Anglo and Hispanic women in marriage formation levels. There are three main objectives. *First*, rates of first marriage are calculated for whites, blacks, Mexican Americans, and Puerto Ricans based on the one-year retrospective question contained in the ACS. These are supplemented with descriptive statistics on variables theorized to influence the likelihood of marriage, disaggregated by ethnicity. *Second*, a binary logistic regression predicting marriage over the past year is run for each ethnicity. *Third*, formal decomposition techniques are employed to quantify the impact of group differences in social and economic variables on corresponding disparities in the expected log odds of marriage. White-Mexican, black-Mexican, white-Puerto Rican, and black-Puerto Rican marriage gaps are analyzed.

This study makes three important contributions to the literature on Hispanic marriage patterns. First, it provides up-to-date information on Latinas' union formation processes. The earlier paper on this topic employing the most recent data is that of Landale et al. (2010), which relied on Ad Health Wave 3, collected in 2001-2002. Given the rapid growth of the Hispanic population, significant change might have occurred over the past decade in marriage rates, compositional averages, and even the effects of socioeconomic variables on the odds of marriage. Therefore, it is worthwhile to investigate the topic again with newly-released ACS data.

A second contribution is to apply for the first time the formal decomposition approach of Jones and Kelley (1984) to the study of Hispanic marriage differentials. The paper should make available precise estimates of the impact of compositional differences on Anglo-Hispanic disparities in union formation. Previous research for the most part examines changes in ethnic dummy coefficients that occur with the addition of variables to pooled regressions.

Third, this study takes advantage of the large sample size of the ACS to decompose the family transition patterns of the second largest Latino nationality in the US, Puerto Ricans. Earlier studies investigate only Hispanics in aggregate (Lloyd, 2006) or Mexican Americans (Landale et al., 2010; Oropesa et al., 1994; Raley et al., 2004) in relation to non-Hispanic ethnic groups. An exploration of Puerto Rican women's marriage outcomes is likely to yield results substantively different from those produced by a study of Mexican American women for two reasons. First, in addition to marriage incidence itself, the two populations differ in several variables which are likely to be associated with nuptiality, such as educational attainment and English proficiency (Collazo, Ryan, Bauman, 2010, p. 15). Second, relationships between compositional characteristics and marriage formation probably vary between Mexican Americans and Puerto Ricans as a result of cultural differences. Familism is a component of Puerto Rican culture as well (Zayas & Palleja, 1988), but Mexican Americans have been found to express stronger support for marriage, which perhaps indicates a more pronuptial disposition (Oropesa & Landale, 2004, p. 906).

There are several expectations regarding the impact of compositional variation on Anglo-Hispanic gaps in marriage incidence. First, the economic circumstances of Mexican American and Puerto Rican women are expected to reduce their marriage rates relative to both whites and blacks. In keeping with models of union formation emphasizing the material prerequisites of

marriage, recent individual-level research indicates that women's economic resources promote nuptiality (e.g. McLaughlin & Lichter, 1997). At the same time, the economic means of Mexican American and Puerto Rican women are currently more limited on average than those of either white or African American women. Therefore, Latinas' odds of marriage would probably be higher if they possessed the same economic resources as either of these two groups.

Mate availability differentials are likely to lower Mexican American and Puerto Rican marriage rates in comparison to whites. The presence of economically attractive men in the local area is thought to increase women's probability of marriage. Since Latinas seem to have a smaller supply of potential partners than white women, elimination of marriage market inequalities would presumably increase the former's marriage rates. On the other hand, black-Hispanic disparities in mate availability likely favor Latinas' marriage prospects because African American women apparently possess fewer marriage market opportunities.

Mexican American and Puerto Rican women's lower average levels of cultural incorporation (measured by nativity and English proficiency) are expected to increase their marriage rates with respect to both Anglo groups. Nuptiality is presumably greater among less assimilated Hispanics because they have not received as much exposure to liberal American views on the family and likely retain more of the familistic traditions of their homelands. Consequently, elimination of cultural incorporation differentials should reduce Latinas' marriage incidence.

Finally, premarital fertility is predicted to decrease Mexican American and Puerto Rican women's marriage odds in comparison to those of whites. The literature on this topic generally indicates that out-of-wedlock births discourage the formation of marital unions. Furthermore, past research suggests that never-married Latinas' premarital fertility prevalence is higher than

that of whites. Thus, equalization of this factor would probably increase Hispanic women's relative marriage rates.

DATA AND METHODS

Sample

This study relies on individual-level data gathered from years 2008 and 2009 of the American Community Survey. The ACS is a nationally representative survey conducted by the US Census Bureau to provide communities with information on their social and economic characteristics and to determine the appropriate distribution of federal and state funds. It is a replacement for the Decennial Census "long form." Long form data was often untimely for the purposes of research because the Census is administered only once each decade. The ACS is an improvement from a scholarly perspective because it is conducted annually. The survey is sent to approximately 3,000,000 addresses each year (housing units and group quarters) and data collection occurs on a near-continuous basis.

The 2008 ACS is the first to ask respondents at least 15 years old whether they had married over the past year - the outcome on which the current paper focuses. For this analysis, the 2008 and 2009 files of the ACS are combined in order to increase the number of observations. Three restrictions are imposed on the analytical sample. First, since the process of remarriage probably differs in significant ways from that of first marriage, the focus is limited to women at risk of first marriage. Only female respondents who were never-married at the beginning of the period at risk (i.e. 1 year prior to the survey date) are examined. Second, the sample is restricted to individuals 16 to 50 years old at the time of the survey. Sixteen is the earliest age at which information on several economic variables is gathered, and the risk of marriage is small after age 50. Third, women who reported that they moved to the US within the

past year (recently-arrived immigrants) are excluded because it is not possible to determine whether their marriages were formed domestically.

For 2008-2009, there are 324,736 white, 90,374 black, 51,955 Mexican American, and 8,827 Puerto Rican women who fall within these sample restrictions, corresponding to 18,463, 2,298, 2,836, and 362 recent marriages, respectively. For these groups, the number of unions is sufficient to run a separate regression predicting marriage so that each can be incorporated into the decomposition analysis. Unfortunately, not enough members of other major Hispanic nationalities (e.g. Cubans) were sampled to carry out separate regressions for them.

Women's Economic Resources

In the logistic regressions, variation in women's economic resources is controlled for with educational and occupational attainment variables. Two educational dummies are included in the analysis, one indicating respondents who have graduated from high school but have not completed four years of college ("high school graduate"), and the other respondents who have attended college for at least four years ("college graduate"). Women lacking at least a twelfth grade education are the reference group. Occupational standing is captured with a binary variable coded one if the respondent's most recent job (held within the past five years) was in a professional or managerial field according to the 1990 US Census Bureau classification scheme. Each of these variables is expected to be positively associated with the odds of marriage because women with greater economic resources should be better able to cover the expenses that accrue from establishing and maintaining a household (Sweeney, 2002). The logic behind utilizing these particular measures is that they reflect current financial conditions as well as long-run earnings trajectories. Taking into account both short- and long-term economic circumstances is

Table 1.1 Variable Names and Coding Procedures

Variable	**Description**
Marriage	First marriage occurred in the past year.
High school graduate	Completed 12th grade and up to 3 years of college.
College graduate	Completed at least 4 years of college.
Professional/manager	Most recent job (held within the past 5 years) was a professional or managerial specialty according to the 1990 US Census Bureau classification scheme
Employed male sex ratio	Ratio of men in the local marriage market who usually worked 35 or more hours per week over the past year and worked at least 48 weeks over the past year to women in the local marriage market.
Foreign-born	Born outside of the 50 US States and the District of Columbia.
English proficient	Respondent "speaks only English" at home or, if not, speaks English "very well" or "well."
Age	Age at interview in years.
Premarital fertility	Had an own child living in the household at the time of the interview who was not born in the year prior to the interview.
Nonmetro	Lived in a nonmetropolitan Public Use Microdata Area at the time of the interview.
Midwest	Lived in the Census-defined Midwest at the time of interview.
South	Lived in the Census-defined South at the time of the interview.
West	Lived in the Census-defined West at the time of the interview.

important because marriage is a commitment often accompanied by the expectation of financial stability in the present and the future (Raley & Sweeney, 2009, p. 138).

Mate Availability

Construction of the mate availability variable requires specification of several parameters, including period of measurement, level of geographic aggregation, endogamous group boundaries, and the attributes of men that render them attractive as spouses. First, mate availability is calculated with ACS data over the 2008-2009 period so that conditions experienced by the respondents are reflected as closely as possible. Second, marriage markets are defined at the state level in light of Brien's (1997) finding that state-based measures account for a larger portion of white-black differences in nuptiality than variables based on smaller geographies (i.e. county group, Standard Metropolitan Statistical Area). The latter appear to have less explanatory power because of measurement error; when mate availability is disaggregated by sex, age, race, *and* limited geographic area, cell sizes grow small and the resulting indicator is "noisy" (Brien, 1997).

Turning to endogamy, non-Hispanic white and black women tend to marry men of the same race and ethnicity (Lloyd, 2006, p. 1000); the current study thus assumes racially and ethnically homogenous marriage markets for these groups. The situation of Hispanics is more complex due to the combination of their diverse national and racial origins and their shared Latin cultural background. Qian and Cobas (2004) present evidence that Hispanics are endogamous with respect to both nationality and race. Controlling for population size, white Mexican Americans are 2.2 times as likely to marry among themselves as Anglo whites are to marry within their group; for white Puerto Ricans the corresponding figure is 3.5. These numbers are even larger for non-white Mexican Americans and Puerto Ricans. In addition, the authors find

that marriage between members of different Hispanic nationalities is less frequent than unions between Hispanics and non-Hispanic whites (Qian & Cobas, 2004, pp. 237-240).

However, this study does not take into account the fact that Latino national-origin groups in many cases have markedly different geographical distributions within the US and consequently have little opportunity for forming relationships with each other. Rosenfeld (2001) avoids this problem by examining intermarriage patterns *within* major American cities and finds evidence for Hispanic panethnicity in mate selection. For instance, Mexican Americans in Los Angeles are six times more likely to be married to a non-Mexican Hispanic than a non-Hispanic. Furthermore, Puerto Ricans in New York are 2.6 times as likely to marry a non-Puerto Rican Hispanic as to marry an Anglo (Rosenfeld, 2001, pp. 162, 168-169).

Based on these results, the marriage markets for both Mexican American and Puerto Rican women are limited to same-race Hispanic men of any national-origin. Data from the 2008-2009 ACS indicates that less than one percent of Mexican Americans and roughly seven percent of Puerto Ricans identify as "black." By far the most popular racial designations among these groups are "white" and "other." Given the small number of respondents who report being black, Hispanics are divided into whites and non-whites (encompassing "black" and "other" respondents).

Finally, men's desirability as a spouse is defined in terms of their employment status. Specifically, to be eligible for inclusion in a marriage market, they need to have been employed full time (35+ hours) in the typical work week over the past year *and* to have worked at least 48 out of the past 52 weeks. Men meeting these conditions are hereafter referred to as "stably employed." Past research suggests that employment-based marriage market measures have more explanatory power than ones based on income (Lichter et al., 1992; Brien, 1997).

Taking into account all of these specifications, mate availability for women of age *i* is modeled by the following sex ratio:

$$SR_i = \left(\frac{\sum_i^{i+9} ME_i}{\sum_{i-2}^{i+7} F_i} \right)$$

where $\sum_i^{i+9} ME_i$ is the number of stably employed, single men of the same race and ethnicity in the state who are between the same age to 9 years older than the respondent and $\sum_{i-2}^{i+7} F_i$ is the number of single women of the same race and ethnicity who are 2 years younger to 7 years older than the respondent (representing the population competing for men in the numerator). The selected age ranges follow the specifications utilized by Lichter et al. (1992).

Cultural Incorporation

Cultural incorporation is taken into account with two dichotomous variables indicating whether the respondent is foreign-born and proficient in the English language. The foreign-born are defined as those who were born outside of the 50 US states and the District of Columbia. Respondents originating in Puerto Rico fall into this category. Although Puerto Rico is an American territory, prior research has treated migrants from the island as foreign arrivals because their experiences closely parallel those of immigrants; they tend to be culturally distinct from mainland Americans and in many cases speak Spanish as their first language (Lloyd, 2006, p. 996). The ACS queried each respondent whether she "speaks only English" at home and, if not, whether she speaks English "very well", "well", "not well", or not at all. To create the English proficiency variable, those in the first three categories are coded one and those not speaking English well or not at all coded zero. Respondents are assigned to just two fluency groups because of sample size limitations.

Premarital Fertility

Women who had a co-residential child one year prior to the survey date (the beginning of the period at risk) are regarded as having experienced premarital fertility. This is estimated with a dummy term indicating whether the respondent was living with an own biological child at least one year of age and no older than 18 at the time of the survey.

Other Variables

Other variables included in the regressions are age and age squared, nonmetro residence, and Census region (reference = Northeast). Each of these is measured at the time of the survey. Women living in rural areas and Southern states are known to make earlier transitions to marriage (Bennett et al., 1995; Lichter & Graefe, 1999; McLaughlin, Lichter, and Johnston, 1993).

Decomposition Procedures

Ethnic differences in marriage rates may stem from group variation in average compositional characteristics. For example, blacks could be less likely to marry than whites because they typically have fewer economic resources with which to maintain a stable household (Phillips & Sweeney, 2006, p. 411). Marriage differentials may also be due to ethnic disparities in the *effect* of compositional characteristics on union formation. For instance, earnings might be a strong predictor of marriage for whites and blacks because these populations generally perceive a need for a newlywed couple to establish their own household. However, finances presumably impinge less strongly on the decision to marry for members of Hispanic and Asian groups that have traditions permitting a couples' residence with the groom's parents after marriage (Raley & Sweeney, 2009, p. 135).

This paper utilizes the regression decomposition procedures of Jones and Kelley (1984) to separate Anglo-Hispanic differences in the expected log odds of marriage into a component due to variation in social and economic composition and an unexplained component. This method allows for two ethnicities to be compared at a time. The regression results provide the necessary information for the following equations:

$$\Theta_1 - \Theta_2 = \sum_{k=0}^{k=K} b_{k,1}(\bar{x}_{k,1} - \bar{x}_{k,2}) + \sum_{k=0}^{k=K} \bar{x}_{k,2}(b_{k,1} - b_{k,2}),$$

$$\Theta_1 - \Theta_2 = \sum_{k=0}^{k=K} b_{k,2}(\bar{x}_{k,1} - \bar{x}_{k,2}) + \sum_{k=0}^{k=K} \bar{x}_{k,1}(b_{k,1} - b_{k,2}),$$

where Θ_1 is the expected log odds of marriage for group 1, Θ_2 is the expected log odds of marriage for group 2, K is the number of coefficients (including the intercept) in the regression, $b_{k,1}$ is the coefficient for variable k in the regression model for group 1, $b_{k,2}$ is the coefficient for variable k in the regression model for group 2, $\bar{x}_{k,1}$ and $\bar{x}_{k,2}$ are the mean values for variable k for groups 1 and 2 respectively (where k = 0 is the regression intercept and $\bar{x}_0 = 1$ for all groups). The first equation can be used to calculate the percent change in the difference in the expected log odds of marriage that would occur were group 1 to adopt one or more of the compositional averages of group 2. The second equation can be used to calculate the percent change that would result under the opposite conditions.

RESULTS

Descriptive Results

Figure 1.1 displays estimates of the number of marriages over the past year per 1,000 women never-married at the beginning of the year. Consistent with previous findings, whites and Mexican Americans have a near-identical marriage incidence: 52 and 51, respectively; the "paradox of Mexican American nuptiality" persists. Also in keeping with earlier results, black

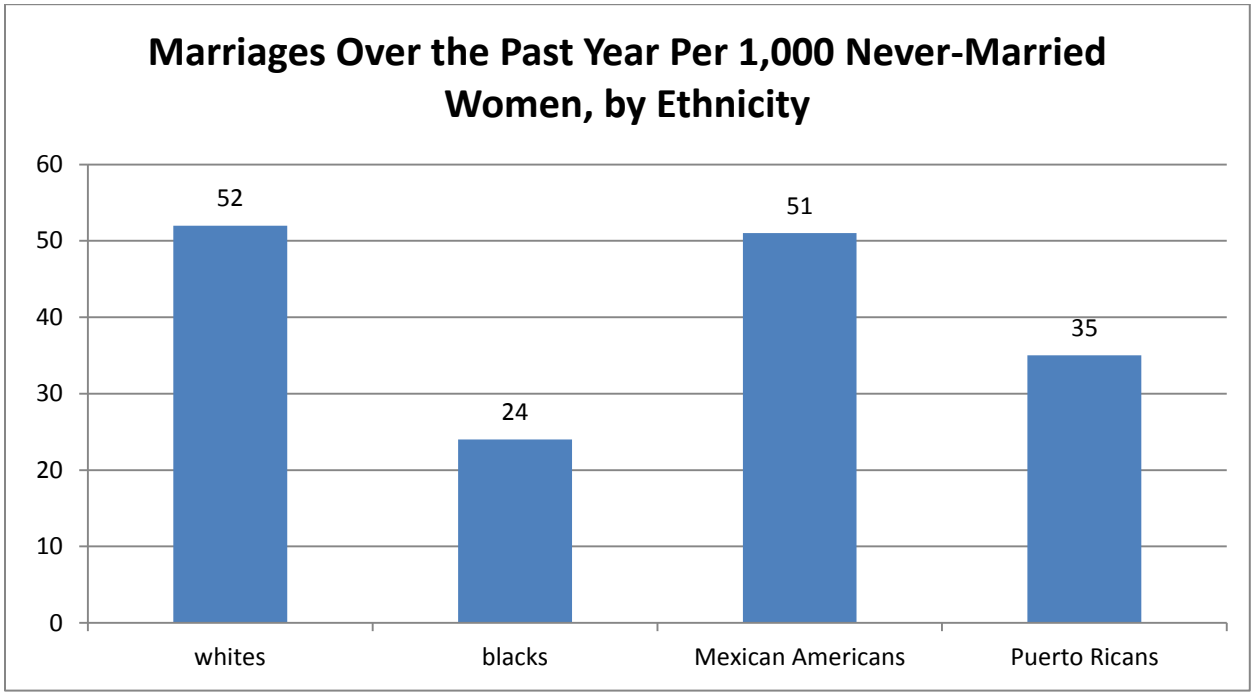

Figure 1.1 Marriage Rates Over the Past Year, by Ethnicity

women marry at a rate less than half of these levels (24). The Puerto Rican marriage rate (35) is intermediate to that of whites and Mexican Americans on the one hand and blacks on the other. All of the group differences are significant at the $p = 0.05$ level.

Table 1.2 contains the mean values of the predictor variables. These statistics reveal several important compositional differences between Anglo and Hispanic women at risk of first marriage. First, Latinas have lower educational and occupational attainment than their white counterparts. White women are more than three times as likely to have completed four years of college than Mexican American women and two times more likely than Puerto Ricans. Furthermore, 22 percent of white respondents recently held a professional or managerial job, compared to 10 percent of Mexican Americans and 14 percent of Puerto Ricans. There are also notable disparities between minority groups. Black women have higher levels of education and professional employment than Puerto Rican women who in turn exceed Mexican Americans on these measures. The economic ordering of the non-white ethnicities is the reverse of what one would expect based on their marriage rates.

Despite their limited economic resources, Latinas are exposed to a greater supply of stably employed, co-ethnic men than are either white or black women. There are 59 and 56 eligible males for every 100 single females in the average Mexican American and Puerto Rican woman's marriage market, respectively. The mean white sex ratio is appreciably lower at 51, and the mate availability of the average black woman (32) lags far behind that of Hispanics and whites.

Additional analysis (not shown) reveals that the measured differences in marriage market conditions are due to ethnic disparities in both the demographic availability of men and men's employment patterns. If work conditions are dropped as a criterion for inclusion in a marriage

market, the sex ratio encountered by the average Mexican American respondent is 113, Puerto Ricans 108, whites 103, and blacks 84. The higher numbers observed for Hispanics may be related to the sex selectivity of immigration to the US mainland (Raley et al., 2004, p. 875). Again using the less restrictive market definition, for the average Mexican American and Puerto Rican woman approximately 51 percent of eligible men are stably employed. Males in the average white marriage market are slightly less likely (49.9 percent) to have a full work schedule, probably due in part to a greater prevalence of school enrollment among white men. Only four in ten men who are available to the average African American respondent possess stable employment.

The low scores of Hispanic women on the economic indicators can partly be attributed to the high proportions of immigrants with limited human capital in the Mexican American and Puerto Rican populations. Of the four groups, Mexican American respondents are the least likely to be native-born and English proficient; more than one third are immigrants and 17 percent do not speak English well. In addition, close to one quarter of Puerto Ricans were born outside the mainland US and five percent are not English proficient. By contrast, whites and blacks are overwhelmingly native-born (> 90 percent) and almost uniformly fluent in English.

The statistics reveal substantially greater levels of out-of-wedlock childbearing among Latinas than white women. Seventeen percent of Mexican American and 24 percent of Puerto Rican respondents are estimated to have a premarital birth while this is true of 9 percent of whites. Fertility prior to first marriage is most common among African Americans, 26 percent of whom had a child at the beginning of the period at risk.

Finally, ethnic differences in spatial location are substantial. Whites and blacks are significantly more likely to reside in nonmetropolitan counties than are Mexican Americans and

Table 1.2 Mean Values of Respondent Characteristics, by Ethnicity

Respondent characteristics	whites	blacks	Mexican Americans	Puerto Ricans
Women's Economic Resources				
High school not completed	0.192	0.215[a]	0.373[ab]	0.298[abc]
High school graduate	0.572	0.656[a]	0.554[ab]	0.592[abc]
College graduate	0.236	0.129[a]	0.073[ab]	0.110[abc]
Professional/Manager	0.216	0.145[a]	0.096[ab]	0.135[abc]
Employed male sex ratio	0.514	0.324[a]	0.587[ab]	0.556[abc]
Cultural Incorporation				
Foreign-born	0.035	0.072[a]	0.345[ab]	0.244[abc]
English proficient	0.996	0.995[a]	0.831[ab]	0.955[abc]
Premarital fertility	0.085	0.263[a]	0.169[ab]	0.240[abc]
Controls				
Age	25.4	28.2[a]	25.2[ab]	26.9[abc]
Nonmetro	0.167	0.101[a]	0.075[ab]	0.031[abc]
Northeast	0.217	0.175[a]	0.030[ab]	0.626[abc]
Midwest	0.267	0.194[a]	0.105[ab]	0.089[abc]
South	0.313	0.542[a]	0.297[ab]	0.222[abc]
West	0.203	0.089[a]	0.568[ab]	0.063[abc]
Number of Observations	324,736	90,374	51,955	8,827

Note: Means are weighted.
[a] sig. different from whites, $p < 0.05$
[b] sig. different from blacks, $p < 0.05$
[c] sig. different from Mexican Americans, $p < 0.05$

Puerto Ricans. In addition, while whites are spread fairly evenly across the country, each of the minority ethnicities is concentrated in one region. The majority of Mexican Americans (57 percent) live in the West, Puerto Ricans (63 percent) in the Northeast, and African Americans (54 percent) in the South.

Multivariate Results

Table 1.3 presents results from the binary logistic regressions predicting marriage occurrence over the past year. The estimated effects are generally supportive of leading theories of marriage timing and suggest a great deal of similarity across groups in the process of union formation. However, there are appreciable ethnic differences in the size of some of the estimated coefficients.

There is consistent backing for Sweeney's (2002) argument that women's economic resources now act to promote marriage. Anglo and Hispanic women display very similar educational and occupational gradients to the odds of marriage. High school graduates are between 1.4 and 1.9 times as likely to tie the knot as those with less than a high school education and college graduates are 2.1 to 2.8 times as likely. Women recently holding a professional or managerial position have 22 to 31 percent higher odds of marrying in the year prior to the survey (though the relationship is not significant for Puerto Ricans).

The figures also corroborate marriage market theories that emphasize shortages of marriageable men. The relationship between the supply of stably employed men in the state and the odds of union formation is positive and significant in every case. Nevertheless, the association is much stronger for whites than for the other groups. The estimated effect of an additional eligible male per 100 females on white women's odds of marriage is roughly three and five times greater than the respective effects for Mexican Americans and Puerto Ricans.

The hypotheses derived from classical assimilation theory receive partial support. The foreign-born members of all four ethnicities are significantly more likely to get married than their native-born counterparts. As discussed above, this pattern may reflect adoption of individualistic family values prevalent in the US by the children and grandchildren of immigrants. Interestingly, the association between foreign-born status and marriage is strongest for blacks, an indication perhaps of the weakness of pronuptial norms in African American culture. On the other hand, there is no clear relationship between English proficiency and marriage incidence.

Contrary to previous research, the regression results show that premarital fertility is consistently associated with *increases* in the probability of marriage. Remarkably, out-of-wedlock childbearing is estimated to raise Mexican American women's odds by a factor of 2.7. In addition, white women who experienced a premarital birth are roughly twice as likely to marry and Puerto Rican and black women around 1.5 times. It is possible that these associations are capturing union formation with the father of the child. To explore this possibility, additional regressions were performed in which the premarital fertility variable was replaced by two dummy terms, one indicating the presence in the respondent's household of an own biological child exactly one year old and the other an own child at least two years old. Couples unmarried at the time of a birth reportedly have a much lower probability of eventually marrying after their child turns one year old (Raley et al., 2004, p. 879). Therefore, the estimated effect of the second variable presumably does not reflect marriage to the father to any significant degree. Nevertheless, the results (not shown) in each case reveal that having a child at least two years old is positively related to women's marriage odds.

Table 1.3 Binary Logistic Regression of Marriage in the Past Year, by Ethnicity: Odds Ratios

Independent Variable	whites	blacks	Mexican Americans	Puerto Ricans
Women's economic resources				
High school graduate	1.802***	1.881***	1.379***	1.801***
College graduate	2.643***	2.704***	2.050***	2.805***
Professional/manager	1.308***	1.245***	1.220***	1.234
Employed male sex ratio (*100)	1.020***	1.008***	1.007***	1.004**
Cultural incorporation				
Foreign-born	1.323***	2.338***	1.565***	1.595***
English proficient	0.907	0.501***	1.037	1.284
Premarital fertility	2.075***	1.480***	2.684***	1.511***
Controls				
Age	1.427***	1.361***	1.216***	1.252***
Age squared	0.994***	0.995***	0.996***	0.997***
Nonmetro	1.455***	1.095	1.206**	0.981
Midwest	1.330***	1.081	1.037	2.018***
South	1.530***	1.450***	1.279	1.883***
West	1.315***	1.181	1.159	1.432
Log Pseudolikelihood	-6,784,320	-1,360,844	-1,247,522	-157,991
Wald Chi2	7,068	803	908	164
Pseudo R2	0.082	0.053	0.053	0.059

* $p < 0.10$. ** $p < 0.05$. *** $p < 0.01$.

White and Mexican American women residing in nonmetropolitan locations have a greater likelihood of marrying than their urban counterparts – probably a reflection of the influence of traditional values in rural areas and small towns. Interestingly, significant regional differences in nuptiality remain after controlling for women's economic resources, marriage market conditions, and cultural incorporation. The likelihood of marriage is generally lower in the Northeast (the reference category) than in other parts of the country.

Decomposition Analysis

Based on the estimated coefficients, the expected log odds of marriage over the past year for whites, blacks, Mexican Americans, and Puerto Ricans are -3.28, -3.98, -3.11, and -3.59 respectively. Table 1.4 contains decompositions of the differences between these figures. A *positive* number means the gap in the expected log odds between the groups in question would *decrease* by that amount if the associated compositional difference were eliminated; a *negative* number means that the gap would *increase* by that amount. When a particular ethnicity serves as the standard population, the figures indicate how the difference in the log odds would change were that group to adopt the compositional averages of the other. The discussion that follows focuses on the results obtained from using Hispanic women as the standard. When interpreting the numbers, it should be kept in mind that the corresponding regression coefficients are not significant in every case and that Mexican American women have higher expected log odds of marrying than white women (even though their calculated marriage incidence is slightly lower).

Consistent with predictions, the results suggest that Latinas' disadvantaged economic circumstances, especially their low average educational attainment, dampen their marriage prospects relative to those of the Anglo groups. If Mexican-origin women were as likely as their white counterparts to possess a high school and college education, the corresponding marriage

odds differential would expand by 75 percent (in favor of Mexican Americans). Educational inequalities also account for 38 percent of the large gap between whites and Puerto Ricans in nuptiality. Furthermore, African American women's higher schooling levels appear to significantly constrain black-Hispanic marriage differentials. The Mexican American advantage over blacks in the expected log odds of marriage would be 8 percent larger and that of Puerto Ricans, 14 percent, in the absence of educational inequalities. Hispanic women's lower probability of professional employment also seems to reduce their likelihood of marriage relative to non-Hispanics, though not nearly to the same extent.

Latinas' greater access to same-ethnicity men possessing stable employment compensates for their limited economic means. The decomposition indicates that Mexican American women's superior marriage market opportunities are responsible for 30 percent of their edge over whites in the expected log odds of marriage. Nevertheless, sex ratio variation elevates Puerto Rican women's marriage odds only slightly in comparison to whites, partly because differences between these groups in average mate availability are fairly small. Differentials in the supply of marriageable men also account for over one fifth of the sizable black-Mexican and black-Puerto Rican marriage gaps.

As hypothesized, the high concentration of immigrants in the Mexican American and Puerto Rican populations appears to be a major demographic underpinning for these groups' marriage rates. The disparity in the expected log odds of marriage between Mexican Americans and whites would be 85 percent smaller if there were no nativity differences. Moreover, if Puerto Rican women were as likely as white women to be born on the US mainland, the magnitude of the former's disadvantage in marriage odds would be approximately one third

Table 1.4 Percentage of Ethnic Differences in the Expected Log Odds of Marriage Due to Differences in Composition

	Mexican Americans				Puerto Ricans			
	white-Mexican differential (%)		black-Mexican differential (%)		white-Puerto Rican differential (%)		black-Puerto Rican differential (%)	
	1	2	3	4	5	6	7	8
Respondent Characteristics	Mexican as standard	White as standard	Mexican as standard	black as standard	Puerto Rican as standard	White as standard	Puerto Rican as standard	Black as standard
Education	-74.9	-90.3	-8.4	-13.8	38.0	35.6	-14.4	-14.9
Professional/manager	-14.5	-19.6	-1.1	-1.2	5.5	7.0	-0.5	-0.5
Sex ratio	30.4	89.2	20.8	24.3	-5.0	-27.3	21.7	47.2
Foreign-born	84.7	52.9	14.1	26.7	-31.6	-18.9	20.4	37.1
English proficient	-3.6	9.8	-0.7	13.0	3.3	-1.3	-2.6	7.1
Premarital fertility	50.5	37.4	-10.8	-4.3	-20.7	-36.7	-2.4	-2.3
Age	10.9	16.1	10.6	-2.1	-10.7	7.0	-3.5	-0.9
Nonmetro	-10.5	-21.2	-0.6	-0.3	-0.8	16.5	0.3	-1.6
Region	27.0	28.8	0.8	-2.1	75.2	41.2	-72.3	-33.3
All variables	100.0	103.2	24.8	40.2	53.1	23.1	-53.4	37.8

larger. Additionally, 14 percent of the black-Mexican marriage gap and 20 percent of the black-Puerto Rican differential are explained by the higher proportions of Latinas who are foreign-born. Variation in the other measure of cultural incorporation included in this analysis, English proficiency, seems to have little influence on Hispanic marriage patterns.

Due to the unanticipated positive relationship between premarital fertility and marriage incidence, the estimated influence of this factor on Anglo-Hispanic nuptiality differences runs counter to predictions. The results indicate that Mexican American and Puerto Rican women's marriage rates are *increased* relative to those of their white counterparts by their higher levels of childbearing outside of marriage. This variable accounts for one half of the white-Mexican log odds differential. Furthermore, the white-Puerto Rican gap would be 21 percent larger if there was no average difference in premarital fertility between these two ethnicities. Variation in premarital childbearing is estimated to reduce Mexican American marriage rates in relation to those of blacks because African American women are more likely to have experienced a premarital birth. Nevertheless, this factor has little influence on differences in marriage incidence between black and Puerto Rican women because the members of these groups are almost equally as likely to have had a child at the beginning of the period.

Variation in the compositional characteristics included in this analysis account for significant portions of the disparities between Anglos and Mexican Americans in marriage formation. As displayed in the final row of Table 1.4, all of the variables combined account for the entire white-Mexican nuptiality difference. In addition, one quarter of the black-Mexican differential can be attributed to composition.

Elimination of compositional differences would reduce the white-Puerto Rican disparity in the log odds of marriage by approximately one half. However, if Puerto Ricans adopted the

attributes of African Americans, the gap in expected log odds would *grow* by 53 percent. These results are driven in large part by unexplained regional effects. As indicated above, Puerto Ricans are heavily concentrated in the Northeast, where marriage rates are generally lower. For this reason, elimination of differences in regional distribution greatly increases Puerto Rican women's relative odds of marriage.

SUMMARY AND CONCLUSION

In view of evidence linking nonmarital childbearing and single-parent families to negative social outcomes, researchers have investigated the causes of ethnoracial differences in marriage formation. The primary focus has been on the large gap in marriage incidence between whites and blacks. Studies reveal that African Americans are much less likely than whites to marry and that only a portion of this differential can be accounted for by variation in economic and demographic characteristics (e.g. the supply of marriageable men). A smaller body of research has been conducted on Hispanic marriage patterns. This work indicates that Mexican Americans' marriage rates approximate those of whites, even though people of Mexican origin possess fewer material resources on average. In addition, Puerto Ricans are significantly less likely to marry than whites, a pattern consistent with the relative economic positions of these two groups.

The current paper extends research on marriage differences between Anglo and Hispanic Americans in three ways. First, prior findings are updated with newly-released data from years 2008 and 2009 of the American Community Survey. Second, formal regression decomposition techniques are utilized to produce numeric estimates of the influence of variation in average demographic characteristics on Anglo-Hispanic marriage rate differentials. Third, a separate

analysis of the marriage patterns of the second largest Latino national-origin group in the US, Puerto Ricans, is performed for the first time.

The analysis yields several important insights regarding contemporary patterns of union formation in the US. First, despite their different economic circumstances, Mexican Americans and whites marry at similar rates. Furthermore, African Americans are approximately half as likely as these groups to form a marital union, and Puerto Ricans have intermediate marriage levels. These findings reinforce notions of a Mexican American marriage paradox (Oropesa et al., 1994). There are considerable ethnic differences in compositional characteristics thought to influence the probability of marriage. Mexican American and Puerto Rican women have lower average educational and occupational attainment than both white and African American women. Nevertheless, the marriage markets of Latinas are estimated to contain a greater supply of stably employed, co-ethnic men than those of whites and especially blacks. Not surprisingly, Hispanic women are much more likely to be foreign-born and lack proficiency in the English language. Finally, Mexican Americans' premarital fertility prevalence falls between white and black levels, while Puerto Ricans are similar to African Americans in their likelihood of bearing children outside of marriage.

The binary logistic regression estimates indicate major similarities between ethnic groups in the process of marriage formation. Educational attainment and professional employment are associated with higher odds of marriage for each ethnicity. Like several other individual-level studies of marriage timing (e.g. Lichter et al., 1992; McLaughlin & Lichter, 1997), these results contradict Becker's specialization model and support Sweeney's (2002) argument that women's economic resources promote the formation of marital unions under current conditions. Likewise, a larger mate availability ratio is consistently predicted to increase women's marriage odds.

Foreign-born women are more likely to marry than their native-born co-ethnics. This result lends support to classical assimilation theory, which predicts that the family values associated with ancestral lands erode with time in America and that immigrant groups may adopt the individualistic views on kinship common in the US. It should be noted, though, that other factors might contribute to the observed generational differences. The social and economic challenges faced by immigrants, including the legal uncertainties of those in the country without authorization, could foster pro-marriage attitudes in this population (Brown et al., 2008, p. 533).

Unexpectedly, premarital fertility is predicted to accelerate marriage timing. This contradicts earlier research indicating that single motherhood reduces women's chances of forming marital unions (Bennett et al., 1995; Graefe & Lichter, 2002; Lichter & Graefe, 1999). The discrepancy may be connected to ongoing changes in the meaning of marriage. Cherlin (2004) argues that Americans, particularly those of lower socioeconomic status, increasingly view marriage as a symbolic expression of a couple's affections for each other and economic stability rather than as the only proper context for sexual reproduction (the more traditional meaning). Accordingly, marriage is more and more regarded as a special relationship status that couples aspire and "build up to" (perhaps after living together for a period of time and bearing some children) as opposed to the foundational stage in the family building process. The positive associations between premarital fertility and marriage incidence might reflect the growing popularity of this new mode of family formation and a greater willingness on the part of couples to have children prior to getting married. Another possibility is that the stigma associated with marrying a single mother has declined in recent years. Regardless of its source, this unexpected result illustrates the importance of using the most up-to-date data when analyzing marriage patterns.

Findings from the decomposition analysis produce a complex picture of the demographic underpinnings of Anglo-Hispanic marriage differences. In keeping with expectations, Mexican American and Puerto Rican women's lack of economic resources appears to reduce their chances of marriage relative to those of white and black women. Low levels of schooling seem to play an especially important role in inhibiting union formation among Hispanic women, consistent with the findings of Raley et al. (2004). However, the negative impact of Latinas' economic circumstances on their likelihood of marrying seems to be offset by the influence of other compositional differences. Specifically, Hispanic women's superior marriage market opportunities and their much greater probability of being foreign-born raise their marriage odds in comparison to both non-Hispanic groups.

The estimated effects of premarital fertility differentials on ethnic gaps in marriage incidence contradict expectations because of the unanticipated positive association of this variable with marriage formation. The results suggest that Mexican American and Puerto Rican's high levels of premarital childbearing relative to whites increase their comparative marriage rates. Furthermore, disparities between Mexican American and African American women in nonmarital fertility appear to reduce the size of the black-Mexican marriage differential.

This paper contributes to the research which has been conducted on the demographic sources of Hispanic marriage patterns, but the analysis is limited by a lack of data on several important variables. These include family background characteristics (e.g. mother's education), which previous research finds to have significant influence on Anglo-Hispanic marriage differences (Landale et al., 2010; Raley et al., 2004). Furthermore, cohabitation is not incorporated into the study because relationship status one year prior to the survey could not be

determined. Considering the ethnic variation observed in cohabitation prevalence and the complex influence of cohabiting relationships on the transition to marriage (Brown et al., 2008, pp. 534-535), this factor may help to shape marriage rate disparities. Finally, the impact of religious characteristics such as church affiliation and attendance was not accounted for. Recent findings indicate that denominational status and participation in religious services affect young people's decision to transition into marriage (Stokes, 2008). Future studies that utilize formal decomposition techniques to quantify the impact of these variables on Anglo-Hispanic marriage differences would help to advance research on the topic.

The results presented above are relevant to social policy and planning. First, they provide evidence that Hispanic marriage levels might decline in response to cultural assimilation. The large foreign-born segments of the Mexican American and Puerto Rican populations contribute disproportionately to the marriage rates of these nationalities. In both cases, the marriage odds of immigrant women are approximately 1.6 times greater than those of their US-born counterparts, controlling for other variables. This pattern is likely in part a reflection of the first generation's adherence to traditional familistic values originating in the sending society. A corollary to these results is that downward pressure would develop on Latinas' marriage rates if the relative size of the foreign-born population decreased. In fact, immigration from Latin America is slowing down as a result of deteriorating macroeconomic conditions and increasingly tight enforcement of immigration laws in the US. During 2000-2007, an average of 558,000 foreign-born Hispanics settled in the country each year, but just 358,000 did in 2007 (Jordan & Dougherty, 2008). There is clearly a possibility then that this important demographic basis for Mexican American and Puerto Rican marriage rates will erode in the future.

Second, the results indicate that improving Hispanic women's material circumstances is a potential method of increasing their likelihood of getting married. This finding is significant given the current interest among public officials in marriage promotion policies. Latinas' economic disadvantages appear to be an important factor decreasing their marriage rates in comparison to non-Hispanics. For instance, the decomposition analysis predicts that if Puerto Rican women possessed an educational attainment profile identical to white women's, the sizable marriage disparity between the two ethnicities would decline by over one third (38 percent). Of course, positive associations between economic resource measures and nuptiality might reflect the confounding influence of cultural or psychological factors, but the results are consistent with the supposition that material inequalities play a significant role in depressing Hispanic nuptiality. In this light, enhancing Latinas' economic well-being, i.e. their ability to establish and maintain an independent household, could be an effective and nonintrusive way of raising their probability of marrying. This may be an especially important goal for Puerto Ricans, whose nonmarital fertility ratio (NMFR) has traditionally exceeded the NMFRs of both whites and Mexican Americans by a wide margin (Landale & Oropesa, 2007, p. 388). Of course any policy seeking to augment Hispanic human capital would need to contend with a complex set of social and cultural issues that exist within this community, including a widespread lack of English proficiency and family obligations that compete with degree attainment (Lopez, 2009).

In closing, the explosive growth of America's Hispanic population has elevated the importance of Latino marriage dynamics in promoting economic incorporation and upward socioeconomic mobility. The topic deserves more attention from scholars and public officials. Marital behavior is sure to be a key factor shaping the group's opportunities for social and economic advancement. Furthermore, due to high levels of immigration and fertility, Latinos

constitute a large and fast-growing share of the general population. This is particularly true in the case of the younger segments of American society: adults in their prime years and their children. Consequently, national social outcomes such as workforce productivity and poverty levels are increasingly tied to the functioning and well-being of Hispanic families.

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Hispanic In-migration and Economic Outcomes in Rural Destinations

Richard N. Turner

Cornell University

Abstract

Since the 1990s, Latinos have migrated in large numbers to rural areas and small towns outside of traditional settlements in the Southwest. Long-time inhabitants of these so-called new destinations often believe that disadvantaged Latino newcomers may increase the demands placed on local social services, such as public assistance and education. Others worry that the migrants generate additional labor market competition for natives and reduce wages and employment opportunities. African American residents seem to be especially wary of the repercussions of Hispanic influx for local working conditions. Using county-level data drawn from the recent US Decennial Censuses and the American Community Survey, this paper investigates the impact of Latino work force growth on the economic well-being of nonmetro new destination populations. First difference regressions are run to estimate the effect of 2000-2009 change in the Hispanic proportion of the county male labor force on corresponding shifts in unemployment, income, and poverty levels. The outcomes of all residents, non-Hispanic whites, and African Americans are separately analyzed. The results do not indicate that expansion of the Latino presence in the economy influences unemployment rates. Nevertheless, Hispanic labor migration has a negative relationship with median income growth for the general population and is also associated with less desirable income and poverty trajectories for non-Hispanic residents specifically. The economic dislocation resulting from Latino influx appears to be greater for African Americans than whites. Overall, the findings suggest that Hispanic in-migration presents economic challenges as well as opportunities to rural communities.

Hispanic In-migration and Economic Outcomes in Rural Destinations

Since the beginning of the 1990s, many Latinos have left or bypassed traditional Hispanic settlements in the Southwest and moved to so-called new destinations in other parts of the country. A significant portion of this migration has been to rural areas and small towns. The sudden arrival of Hispanics in nonmetropolitan communities with little prior experience incorporating ethnic minority populations has been cause for both optimism and concern among long-time residents. Much of the controversy centers on the economic repercussions of Latino influx. Qualitative studies indicate that local businessmen and community leaders often view the migrants as economically beneficial. From their perspective, the newcomers fill jobs that natives are not willing to perform and provide additional customers for local companies. On the other hand, some residents believe that Hispanic workers and their families may increase demands on and strain the resources of local social service systems (e.g. education, healthcare). Furthermore, working class African Americans have expressed worry that economic competition from Hispanic labor will deprive them of jobs and earnings.

Few quantitative studies have investigated the economic repercussions of Hispanic migration to rural locations. Using county-level data from the 1990 and 2000 US Decennial Censuses and the 2005-2009 American Community Survey (ACS) 5-year estimates, this study seeks to address a few important questions. Does Hispanic labor force growth lead to a decline in the overall economic well-being of nonmetro new destinations (and presumably thereby raise demands on public services)? Do Latino migrants compete with non-Hispanic native workers and displace them from their jobs? Are African Americans more heavily impacted by Hispanic labor migration than their white counterparts?

The paper has three main objectives. The first is to identify nonmetro Hispanic settlement areas at the county level for the 1990-2009 period. The second is to calculate descriptive statistics on shifts between 2000 and 2009 in the economic circumstances (i.e. male unemployment rate, median family income, child poverty rate) of residents of counties experiencing rapid Hispanic settlement (the new destinations) and to identify how the trends differ by magnitude of Latino work force expansion. The third goal is to run first difference regressions of 2000-2009 change in new destination economic outcomes on corresponding change in the Hispanic share of the male labor force. The economic trajectories of three populations are investigated: all residents, non-Hispanic whites, and African Americans. The analysis yields a few key findings. First, there is no indication that Latino influx affects levels of unemployment. However, Hispanic labor migration seems to reduce median income growth for the total county population. Furthermore, increases in Latino workers are associated with less desirable income and poverty outcomes for non-Hispanic residents. Finally, African Americans appear to experience greater economic losses from in-migration than whites. Taken together, these findings suggest that Hispanic settlement carries both economic risks and opportunities for rural communities.

BACKGROUND

New Patterns of Hispanic Settlement

Millions of Hispanics have moved to the US over the past 40 years as part of the post-1965 immigration wave. The Hart-Cellar Law passed in that year repealed the national-origin quotas on immigration established in the 1920s. There was an expectation at the time that the legislation would lead to a modest in-migration of previously excluded Southern and Eastern Europeans. Instead, an enormous influx from Latin America and Asia ensued such that the

country was home to 30 million immigrants by 2000. The initial mass migrations of Hispanics were largely unrelated to Hart-Cellar, though. Documented and undocumented Mexican immigration appears to have taken off following termination of the Bracero temporary farm work program in the mid-60s. Cuban and Central American migration to the US was sparked by political tumult in the sending countries. In the 1970s and 1980s, the newcomers concentrated in a handful of populous states, namely California, Texas, New York, Florida, and Illinois. A leading explanation for the pattern is that immigrants often decide to move to areas where many of their compatriots live because this allows them to take advantage of the services offered by ethnic communities (Hirschman & Massey, 2008, pp.1-3).

In the 1990s, settlement areas diversified and Hispanics began migrating on a large scale to locations outside of the traditional gateways. These "new destinations" include states (e.g. North Carolina, Virginia) which had never before received a substantial volume of immigrants (Massey & Capoferro, 2008, p. 26). Latino population redistribution has been rapid. For instance, the percentage of Mexican householders residing in the old gateway states of the Southwest (i.e. Arizona, California, Colorado, New Mexico, and Texas) fell from 83.1 to 74.7 percent between 1990 and 2000. This shift reflects the settlement patterns of both immigrant and native-born populations (Crowley, Lichter, & Qian, 2006, p. 351).

A major aspect of the dispersion process is an alteration in the spatial distribution of the nonmetro Hispanic population. For centuries, rural Latinos were heavily concentrated in the Southwest (Jones, Kandel, & Parker, 2007, p. 34). This began to change in the 1990s, when the proportion of nonmetro Hispanics residing in the five traditional Southwestern gateway states declined from 62 to 51 percent (Kandel & Cromartie, 2004, p. 9). At the same time, the rural Hispanic populations of several Southern and Midwestern states more than doubled. Indeed, the

number of Latinos living in North Carolina's nonmetropolitan counties quintupled (growing 491 percent) over the course of the decade (Newman, 2003, p. 2). These changes coincide with a major increase in the overall Hispanic presence in rural locations; the total nonmetro Latino population rose from 1.9 to 3.2 million in the 1990s. The various trends are largely reflective of the migratory behaviors of Mexican-origin people, who represented three fourths of nonmetro Hispanics in 2006 (Saenz, 2008).

Causes of Migration to Rural Destinations

Hispanic population growth in non-traditional locations (metro and nonmetro) is the result of a convergence of structural forces set in motion by government and private industry. Immigration policy has been one of the most important factors. First, the Immigration Reform and Control Act (IRCA) was passed in 1986, legalizing over 3 million undocumented individuals (primarily from Mexico). The IRCA amnesty led to a saturation of California's labor markets as beneficiaries took advantage of their newly-granted freedom by seeking formal employment. Combined with a major recession of the California economy, the excess supply of low-skilled labor motivated many foreign-born residents of the state as well as newly-arrived immigrants to move elsewhere (Massey & Capoferro, 2008, pp. 28-29).

Modifications of border enforcement practices also transformed Hispanic settlement patterns. In the early-1990s, the Immigration and Naturalization Service (INS) increased security at the El Paso and San Diego crossings, then the busiest points on the US-Mexico border. Tighter control in these two areas prompted migrants to attempt entry at more remote points, reducing the probability that they would take up residence in traditional receiving communities in California and Texas (Massey & Capoferro, 2008, pp. 30-32). Furthermore, border security escalation apparently increased the likelihood that immigrants would settle in the

US on a permanent basis. In earlier decades, migrant Hispanic farmworkers availed themselves of relatively lenient border enforcement by circulating in and out of the US at their convenience, working in the country during peak seasons and spending the rest of the year in their homeland with family. More stringent controls increased the risks and costs involved in entering the US, encouraging them to make their stay permanent and to bring or send for relatives (Kandel & Cromartie, 2004, p. 4)

Industrial restructuring is another factor which has contributed to the emergence of new rural Hispanic communities. Two developments in the meat-processing industry have been especially important. First, major technological innovation occurred in poultry production beginning in the 1950s that improved efficiency and reduced costs (e.g. the merger of chicken breeding and slaughtering operations). The consequent fall in product prices combined with rising public concern over healthy eating habits and new fast food marketing strategies increased consumer demand for poultry. Furthermore, with the mass entry of women into the work force, demand for easily prepared, pre-processed items grew as well. Second, meat producers relocated plants to nonmetropolitan counties in the South and West in order to reduce transport and feed costs and to ensure an uninterrupted supply of animals (needed for continuous, year-round operation). Low rates of unionization in many rural areas and economic incentives offered by local governments also attracted firms to these locations. The combined effect of rising consumer demand and the re-siting of processing facilities was a shortage of low-skilled labor in rural areas (Kandel, 2006).

Producers could not rely on native workers to meet their needs. Pay and working conditions had deteriorated in the industry because city-based unions possessed less bargaining power in the new rural settings. Furthermore, the increasingly educated domestic populace had

better opportunities than usual in other sectors due to the protracted economic boom which was then taking place. Meat processors adapted to this situation by recruiting Latinos to satisfy the labor requirements of their nonmetropolitan plants. The proportion of individuals employed in the industry of Hispanic origin more than tripled from 9 to 29 percent between 1980 and 2000. Job growth in other areas (e.g. agriculture, durable- and nondurable-goods manufacturing) appears to also have recently drawn Latino workers to rural areas (Kandel, 2006; Parrado & Kandel, 2008, pp. 105-113).

Community Impact

Rural new destinations offer Latinos, particularly immigrants, clear economic benefits in the form of year-round work with pay sufficient to acquire a home, maintain a family, and enjoy living standards difficult to obtain otherwise. The effect of Hispanic in-migration on the economic welfare of host populations is more difficult to discern. On the one hand, rapid Latino growth appears to ameliorate problems in rural areas stemming from long-run economic and demographic trends. Since at least the 1950s, many rural communities (especially in the Corn Belt and the Great Plains) have experienced departures of significant numbers of young adults due to a decline of farming employment and a lack of opportunities in other sectors. In several nonmetro counties, such age-selective outmigration has increased the relative size of the elderly population to such an extent that deaths exceed births, a situation known as "natural decrease." The resulting decline in consumer demand has contributed to business closure (Jones, Kandel, & Parker, 2007, p. 32). Nevertheless, communities suffering from the departure of young workers, population loss, and a contracting fiscal base have enjoyed demographic rebound as Hispanics have arrived to take up jobs in meat-processing, farming, construction, and manufacturing. Indeed, Donato, Tolbert, Nucci, and Kawano (2007) find that growth in foreign-born residents at

least partially offset native-born population loss in over 400 nonmetro counties between 1990 and 2000 (p. 546).

Qualitative research suggests that civic leaders and business owners in rural new destinations tend to view the Hispanic influx as a source of economic vitality. Some maintain that the newcomers fill jobs that native Euro-Americans eschew and thus perform an important economic function (Fennelly, 2008, pp. 160-165). Furthermore, local entrepreneurs indicate that the migrants expand the customer base for their establishments (Rocha & Easterbrook, 2006). In fact, Latinos have actively contributed to economic development by founding their own businesses. For instance, a number of Mexican-owned groceries have recently been established in rural North Carolina, offering such goods and services as Mexican-brand sodas, money wire transfers, and Spanish-language video rentals (Griffith, 2005, p. 59). A case in point is the El Mariachi Gordo store in Warsaw, North Carolina, which is valued at $329,000 and yields roughly $2,000 in annual property tax revenue (Rocha & Easterbrook, 2006). The Chamber of Commerce in Marshalltown, Iowa (whose pork-packing plant has acted as magnet for Hispanic labor) counted 13 Latino-owned area businesses in 2001, including restaurants and auto repair shops (Grey & Woodrick, 2005, p. 138).

Despite the positive assessments of local elites, some community members believe that Hispanic in-migration may have a negative effect on local economic conditions. One set of concerns focus on Latinos' usage of local public services. The process of Hispanic settlement in new destinations has been observed to often follow a particular sequence. Under this scenario, the initial migrants consist primarily of young, single men who travel widely in search of work opportunities. In many cases, their economic pursuits are a component of a larger family plan to improve household income. Once the men secure stable employment, they are likely to bring

over their wives and children, and female migrants have additional births after arrival. Thus, fully formed Hispanic families with all of their attendant needs and vulnerabilities can rapidly emerge in these locations (Griffith, 2008, p. 198; Rich & Miranda, 2005 p. 194-198).

This may take a toll on social safety net programs. Working-class denizens of a rural community in Minnesota whose meatpacking facility employs Latino laborers conveyed to interviewers that they believe the migrants constitute a "burden" through their receipt of government assistance (Fennelly, 2008). Rural Hispanics certainly possess economic weaknesses that might translate into greater pressure on public assistance resources. Kandel and Cromartie's (2004) analysis reveals that just 37 percent of Hispanics at least 25 years old living in nonmetro counties with rapid Latino growth have graduated from high school, compared to 79 percent of non-Hispanic whites. Moreover, the Hispanic poverty rate in these areas is nearly triple the white level (Kandel & Cromartie, 2004, pp. 21-23). Perhaps exacerbating their disadvantages, receiving area economies reportedly contain barriers to the upward mobility of migrants. Latino workers interviewed in Nebraska suggest that a lack of occupational ladders and fringe benefits makes improvement of their economic position difficult (Gouveia, Carranza, & Cogua, 2005, pp. 38-40).

Providing appropriate educational services to Latino youth is also perceived to be costly. The enrollment of Hispanic children may prevent the closure of schools in districts losing traditional residents, but sharp increases in pupils who are not fluent in English can create instructional and budgetary difficulties. There is worry that the provision of English as a Second Language (ESL) courses will strain school resources (Fennelly, 2008, p. 161). How quickly needs can escalate is illustrated by Marshalltown, Iowa, where the number of public school

students categorized as lacking English proficiency climbed from 75 to 782 (or 16 percent of total district enrollments) in a decade (Grey & Woodrick, 2005, pp. 139-140).

Maintaining the health of Latino families may require significant expenditures as well. In the four rural destinations studied by Griffith (2008), leading healthcare providers reported reproductive and pediatric issues to be top medical concerns for the Hispanic community, reflecting Latinas' elevated fertility rates. Other health needs relate to alcohol and drug abuse, driving accidents, and poor nutrition. The challenges involved in dispensing treatment to migrant communities are sometimes exacerbated by a deficit of medical resources. Nonmetro counties can experience difficulty in securing physicians, nurses, and other medical professionals because establishing health facilities in remote locations with low population density is oftentimes not cost-efficient (Jones, Kandel, & Parker, 2007, p. 33).

A second group of community concerns relate to the labor market effects of Hispanic in-migration. As previously noted, Latino migrants are often drawn by employment that other workers avoid (e.g. in meatpacking), but they have been observed to subsequently branch out into more mainstream sectors of the economy such as fast-food, construction, tourism, and manufacturing (Griffith, 2008, p. 179). This creates the potential for the economic displacement of native workers.

Unease caused by Hispanic labor market entry is palpable at times. When undocumented immigrants were arrested in a raid of Marshalltown, Iowa's meat plant, working-class residents reportedly speculated that their presence was part of a plan to undermine unions and wages (Grey & Woodrick, 2005, p. 142). Anxiety over competition from Hispanic labor is apparently most pervasive among African Americans (Crowley & Lichter, 2009; Griffith, 2005; Marrow, 2008; Rocha & Easterbrook, 2006; Swarns, 2006). Although the rural Midwest and Northeast

are overwhelmingly white, blacks constitute a large portion of the population in many Southern nonmetro counties. There is apparently a strong sense among African American residents of rural new destinations that Hispanic workers pose a threat to their wages and jobs. Some even believe that their group's long-running quest for social justice is being put in jeopardy by Latino in-migration. These feelings seem to originate in the similarity of economic circumstances between African Americans and Hispanics. Since the Civil Rights Movement, the black population has made advances primarily in the political arena as opposed to the economic sphere. This is especially true in the rural South, where the black middle class is comparatively small. Due to their concentration in less skilled positions, blacks likely face a more direct economic threat from Hispanics (who are also overrepresented in these jobs) than whites do (Marrow, 2008). Indeed, nearly identical proportions of nonmetro blacks (8.2) and Hispanics (7.1) were college graduates in 2006; non-Hispanic whites (18.2) were more than twice as likely to possess a college degree. Furthermore, members of the two minorities disproportionately hold jobs in service, production, transportation, and materials moving industries (Saenz, 2008).

Adding to the tension, the Hispanic newcomers appear to enjoy competitive advantages over African Americans. White businessmen reportedly prefer Latinos as employees to blacks because they are willing to work for lower wages (Swarns, 2006). Managers of meat-processing facilities have stated that they consider Mexicans more efficient workers (Griffith, 2005, p. 66). Continuation of historical Southern racial conflict might also be contributing to black economic displacement. In the 1980s, the work forces of several North Carolina agricultural industries (e.g. apples, Christmas trees, tobacco) transitioned from being primarily white and black in composition to primarily Mexican. One reason given for this turnover is a breakdown in relations between white farmers and their black employees starting in the racially tumultuous

1960s. African American farmworkers began refusing to take orders from whites, which motivated the recruitment of Mexican workers to replace them (Griffith, 2005, p. 61).

The qualitative literature raises important issues concerning the economic consequences of Hispanic in-migration for new rural destinations. Do demands on local social service systems increase as a result of migrant influx? Do surges of Latino workers harm the employment prospects and earnings of established residents? Is the economic welfare of African Americans more heavily affected by the process than that of whites?

The few quantitative studies in this area suggest that Hispanic in-migration might have a moderate, negative influence on the economic well-being of rural populations. Newman (2003) examines the state-level relationship between Latino population growth and the wages of nonmetro residents. Her results suggest that rising Hispanic numbers dampen the earnings of rural workers possessing intermediate levels of human capital (i.e. high school graduates without a college degree). Interestingly, the wages of individuals lacking a high school diploma (presumably the educational class which competes most directly with Hispanics) are not significantly associated with in-migration (Newman, 2003, p. 14) Crowley and Lichter (2009) investigate differences in economic trajectory between three Hispanic settlement types: "high-Latino-growth" (counties with Hispanic increases of at least 150 percent and 1,000 individuals over 1990-2000), "established" (counties at least 10 percent Latino in 1990), and a residual "other" category. In both 1990 and 2000, the high-Latino-growth counties had lower rates of unemployment, poverty, and public assistance receipt than counties of the other two classes. Moreover, all three settlement types improved on these indicators over the course of the 1990s. However, the high growth counties had significantly smaller declines in poverty, unemployment, and public assistance than did the residual group (Crowley & Lichter, 2009, pp. 586-593).

RESEARCH GOALS AND CONTRIBUTIONS

This paper has three primary goals. The first is to identify nonmetro counties with fast-growing and established Latino populations, in addition to a residual category, based on trends occurring between 1990 and 2005-2009 (abbreviated hereafter as 2009) and to document the distribution of Hispanics across these areas. The second goal is to calculate descriptive statistics for 2000 and 2009 on the economic characteristics (i.e. male employment rate, median family income, and child poverty rate) of high growth new destination county residents and to disaggregate these figures by Hispanic labor force expansion level. The final objective is to conduct regressions of shifts between 2000 and 2009 in the economic characteristics of new destination populations on change in the share of the county's civilian male labor force that is Hispanic.

The outcomes of all residents, non-Hispanic whites, and African Americans (hereafter "whites" and "blacks") are separately analyzed. Examination of the relationship between Latino labor force growth and the county's general economic trajectory is undertaken to assess the impact that Hispanic influx has on the demand for local social services. A negative association would suggest that in-migration leads to a higher proportion of the total population falling below eligibility thresholds for public assistance programs. On the other hand, measured effects of the arrival of Hispanic workers on trends in the economic circumstances of non-Hispanic residents provide an indication of whether Latinos economically compete with their non-Latino neighbors. Analysis of white and black outcomes specifically allows for an assessment of whether racial disparities exist in the effect of Hispanic labor market entry.

Three hypotheses guide the analysis. First, there is an expectation that Latino in-migration puts downward pressure on general economic conditions in nonmetro new

destinations. This is based on research revealing that rural Hispanics have substantially fewer economic resources than non-Hispanic whites living in the same places. The addition of disadvantaged migrants to the population should pull down county averages on key economic indicators. Second, Hispanic in-migration is expected to reduce the economic well-being of average white and black inhabitants. By expanding the local supply of labor, Latino workers probably displace some traditional residents from their jobs and reduce the earnings of those that retain employment. Alternatively, Latinos could have a neutral-to-positive effect on native economic outcomes if they provide a complementary (as opposed to competitive) labor supply. This might occur if they for the most part take up difficult work that non-Hispanics avoid, such as "disassembly line" positions in meatpacking plants (Newman, 2003, p. 3). The third hypothesis is that African Americans experience greater economic dislocation as a result of Hispanic labor migration than do whites. Like Hispanics, blacks are overrepresented among the less-educated and those employed in low-skill jobs. Since the two groups occupy a similar economic niche, they should come into closer labor market competition with each other than Hispanics and whites. Consequently, African Americans probably suffer sharper declines in economic fortunes due to in-migration.

This paper makes important contributions to the literature on new rural destinations. First, analyses of the economic impact of Hispanic population redistribution have tended to concentrate on the 1990s, the decade in which the dispersion trend was first observed. The current study examines Hispanic nonmetro settlement patterns and their economic consequences in the post-2000 period. Second, the paper seeks to make a more direct assessment of the economic impact of Hispanic in-migration by estimating how variation *among* new destination counties in Hispanic labor force growth relates to differences in their development trajectories.

Third, research has not addressed how non-Hispanic residents specifically are affected by the arrival of Latino workers. It is unclear whether the economic effects which have been estimated simply reflect alteration in population composition resulting from the addition of Hispanics, or whether they also signal change in the prosperity of natives. This study attempts to identify the influence of Latino in-migration on the economic welfare of white and black rural residents.

DATA, METHODS, ANALYTICAL STRATEGY

County-level data obtained from Summary File 3 (SF3) of the 1990 and 2000 Decennial US Censuses and the 2005-2009 American Community Survey (ACS) 5-year estimates is utilized. SF3 is based on responses to the long form of the Census, which was administered to a 1-in-6 sample of the US population and contained a detailed set of queries on issues ranging from income to commuting patterns to ancestry. Like the long form which it replaces, the ACS is a nationally representative survey conducted by the US Census Bureau with the goal of determining the appropriate distribution of federal and state funds. Long form data was in many cases untimely for the purposes of research because the Census is administered only at the turn of each decade. The ACS is an improvement from a scholarly perspective because it is conducted annually. Approximately 3,000,000 addresses receive the survey each year and data collection occurs on a near-continuous basis.

Nonmetropolitan counties are used to represent rural areas. Metropolitan Statistical Areas (MSAs) consist of a county containing an urban core with at least 50,000 residents and any neighboring counties possessing a high degree of social integration with the core (as reflected by work commuting patterns). Nonmetro counties are those which do not form part of an MSA. For this paper, they are identified with the most recent (2009) definitions, as specified by the US Office of Management and Budget. Counties in Alaska and Hawaii and those with boundaries

which underwent significant modification between 1990 and 2009 are excluded, leaving a total of 2,006 nonmetro counties.

This study conceives of new destinations as areas in which Hispanic in-migration since the 1990s has occurred on a scale sufficient to alter overall ethnic composition, i.e. where the Latino share of the population has increased significantly. However, it is possible for a location to undergo an upswing in Hispanic representation without the settlement of a significant number of Latinos. If the county population is small to begin with, the arrival of just a few Hispanics could have a major impact. Therefore, new destinations are also regarded as places that have had a major *absolute* increase in the size of the Hispanic population.

With these considerations in mind, High-Latino-Growth counties (representing the new destinations) are defined as those with (1) a minimum 5.0 percentage point increase in the Hispanic share of the total population over 1990-2009 (one half of a standard deviation above the average increase for all nonmetro counties meeting restrictions) and (2) a Hispanic population that grew by at least 1,000 individuals during this period. Established Latino counties are those (1) which do not meet the High-Latino-Growth criteria, but (2) whose 1990 population was at least 10.4 percent Hispanic (one half of a standard deviation above the average Hispanic proportion in 1990). Counties meeting neither set of criteria are classified as Other. This categorization scheme yields 245 High-Latino-Growth counties, 133 Established Latino counties, and 1,628 Other counties. These specifications are partly adapted from previous work (e.g. Koball, Capps, Kandel, Henderson, & Henderson, 2008).[1]

[1]Under this typology, counties which already had a sizable Latino population in 1990 in addition to substantial growth in the Hispanic population since that time are treated as new destinations. The inclusion of such locations in the multivariate analysis seems reasonable given that their residents have likely been recently exposed to migration-induced economic pressures similar to those present in communities which have only attracted significant numbers of Hispanic newcomers in the past few years.

Three dimensions of economic well-being are of interest: employment, earnings, and poverty. Employment conditions are represented by the unemployment rate of men at least 16 years old. Earnings variation is captured by the median family income; income figures provided by the 2000 Census are adjusted to 2009 dollars in order to make them consistent with ACS data. Poverty is measured by the percent of children (individuals less than 18 years old) whose family income fell below the federally-defined poverty line.

First difference ordinary least squares regressions are conducted to estimate the effect of Hispanic in-migration on shifts in High-Latino-Growth county economic conditions over 2000-2009. The following is the baseline regression model:

$$Y_{it} - Y_{it-1} = \beta_0 + \beta_1 (HFLF_{it} - HFLF_{it-1}) + \mu_i$$

Where Y is the economic outcome variable measured in 2000 and 2005-2009 and HFLF is the percent of the county's male civilian labor force (at least 16 years old) consisting of Hispanics measured in the same years. First difference regression offers the benefit of controlling for unobserved fixed effects that could bias the estimates produced by a cross-sectional design. The advantage of using a relatively short window (approximately 7 years) for studying change in economic outcomes is that it leaves less time for workers to respond to any dislocation that results from Latino influx (Johannsson & Weiler, 2004). Established residents might eventually react to migration-induced declines in their economic well-being by moving to other locations with better opportunities, until labor market conditions re-equilibrate to initial levels. If a long time-frame is utilized, then, a significant relationship between Hispanic labor market entry and

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It is also important to note that several counties experienced a large increase in their Hispanic population share over the period but are not considered new destinations simply because they added fewer than 1,000 Latino residents. For example, if the minimum Hispanic increase required for the status were reduced to 500 individuals, 31 Other counties would be reclassified as High-Latino-Growth.

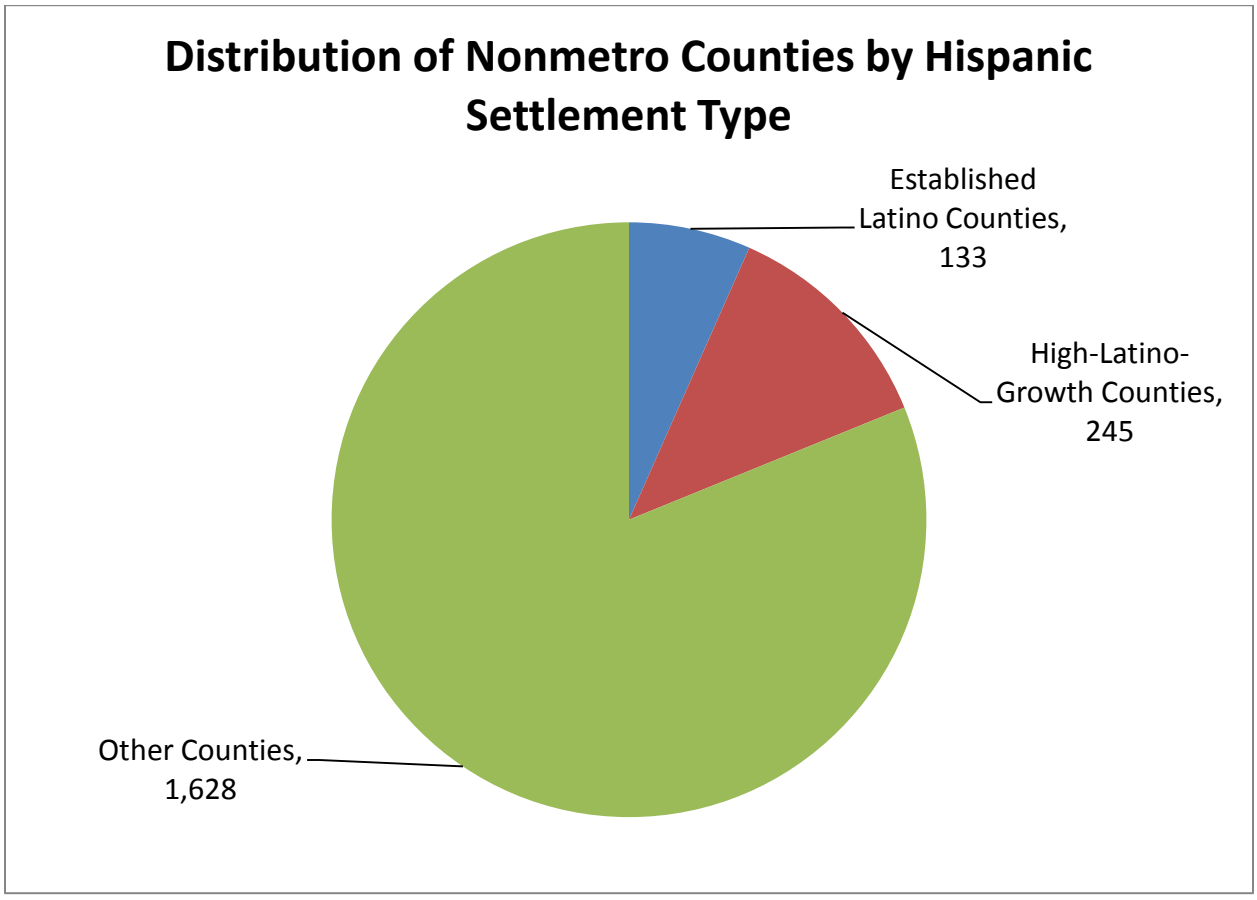

Figure 2.1 Distribution of Nonmetro Counties by Hispanic Settlement Type

the economic circumstances of local residents may not be observed even if substantial disruption takes place.

Regressions predicting change in the three outcomes are run separately for all new destination residents, whites, and blacks. There is a methodological problem in that many of the counties with rapid Hispanic in-migration have few black inhabitants. Given the small population sizes involved in some cases, estimated effects of Latino influx on black economic trajectories could be misleading. To address this issue, the sample used in the analysis of African American outcomes is limited to counties in which at least 150 black men were active in the civilian labor force in both 2000 and 2009 (116 counties meet the restriction).

Summary File 3 of the 2000 Census and the 2005-2009 ACS 5-year estimates provide disaggregated economic statistics for non-Hispanic whites but not for non-Hispanic blacks. Thus, Latinos who identified themselves as black are included in the results for African American residents reported below. Nevertheless, the estimated relationships essentially model the impact of Hispanic labor force growth on the well-being of non-Hispanic blacks because there is little overlap between the two groups. For the African American subset of new destination counties, only 2.3 percent of self-identified blacks also listed themselves as Hispanic on average during 2005-2009. Likewise, just 1.4 percent of Hispanics identified as black.

Variation in county development trajectories is captured with several control variables. These include economic indicators obtained from the 2004 County Typology Codes, which were developed by the Department of Agriculture's Economic Research Service (ERS). Five non-overlapping binary terms indicating type of economic specialization (farming, mining, manufacturing, work for the federal government, or services) are included as independent variables; nonspecialized counties are the reference category. These codes are determined by the

distribution of labor and proprietor's earnings across sectors during 1998-2000, just prior to the beginning of the period analyzed. Since only three of the high growth counties were categorized as mining-dependent, the farming and mining categories are merged. An additional ERS dummy distinguishing retiree settlement areas is also controlled for.

Educational composition of the outcome group (all residents, whites, blacks) is taken into account with two variables measured in 2000: (1) the percentage of males at least 25 years old who had graduated from high school but had not earned a bachelor's degree (including those with some college experience) and (2) the percentage who had earned a bachelor's degree. High school dropouts are the reference. Finally, to capture regional differences in economic growth, a binary term is included indicating whether the county is located in the Census South. Results for the control variables are not reported.

RESULTS

A map of the country that distinguishes the three nonmetro Hispanic settlement areas is presented in Figure 2.2. Not surprisingly, Established Latino counties are concentrated in the Southwest, particularly northern New Mexico, western Texas, and southern Colorado. High-Latino-Growth counties are more geographically varied. Some are also found in the Southwest, but others are scattered across the Northwest, the Great Plains, the Midwest, and the South. Figure 2.3 displays the distribution of High-Latino-Growth counties by state, with those containing at least 10 new destinations distinguished. Texas has by far the most counties experiencing rapid Latino population influx: 67, or 27 percent of the total. Georgia (18) and North Carolina (16) have the second and third highest frequencies, respectively.

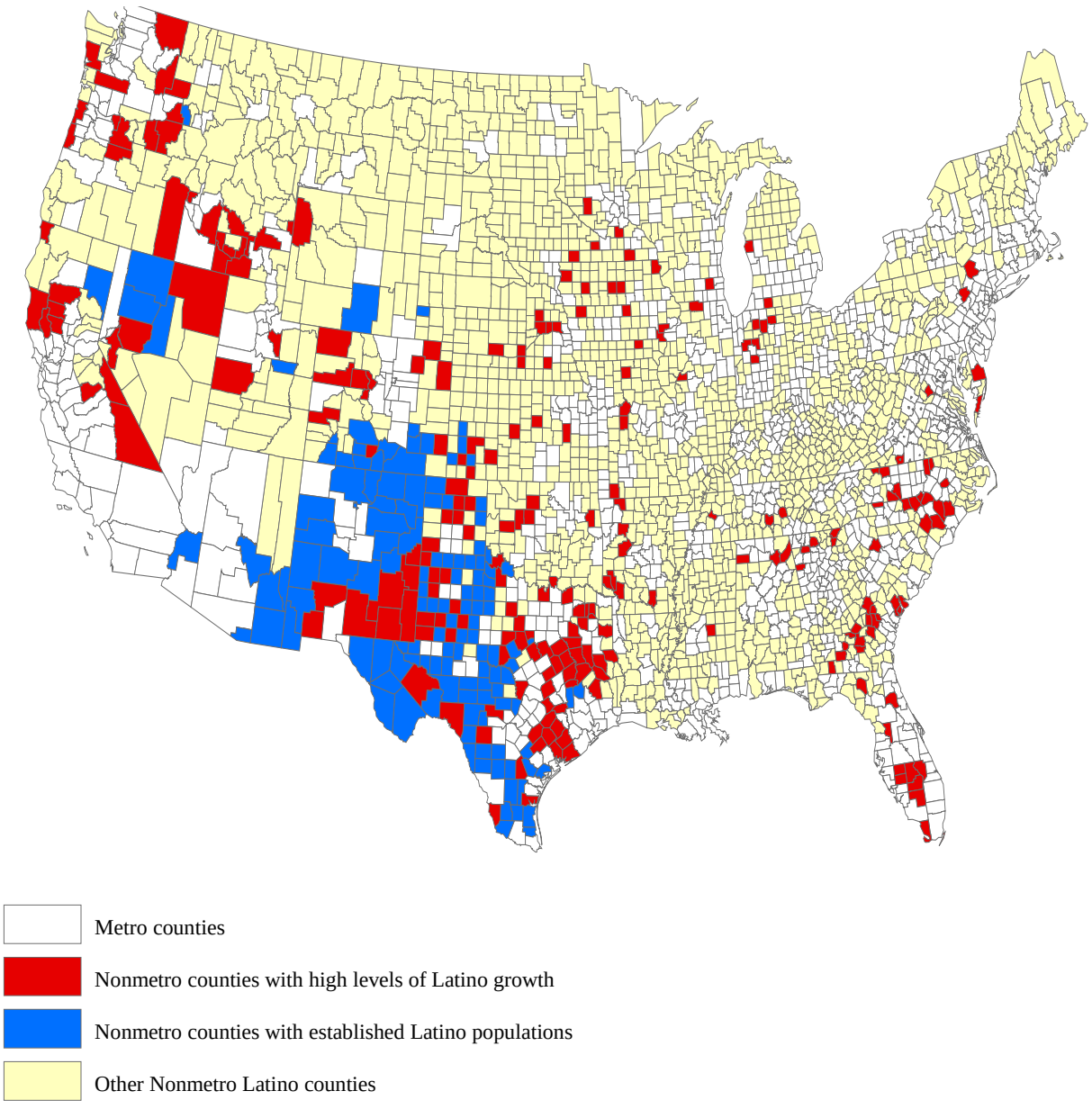

Figure 2.2. Latino Population Growth in Nonmetro Counties, 1990-2009

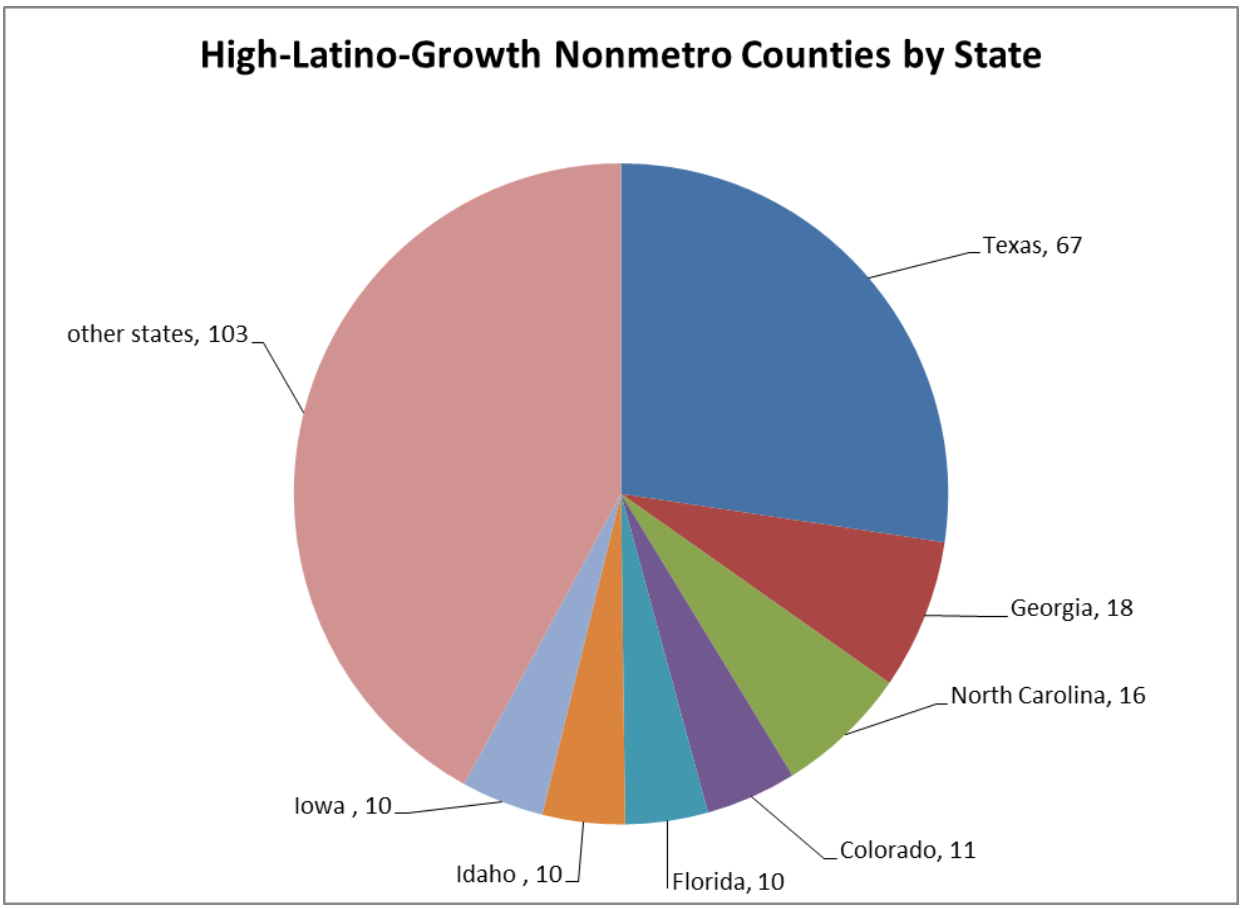

Figure 2.3 High-Latino-Growth Nonmetro Counties by State

Table 2.1 presents descriptive figures on change in the distribution of Hispanics across the three rural settlement types. As shown in the final row, the total nonmetro Latino population has grown considerably over the past two decades. Between 1990 and 2009, the number of Hispanics living in rural areas and small towns in the continental US more than doubled from 1.5 to 3.3 million. Owing to the definitions of the categories, the largest additions to Hispanic numbers occurred in High-Latino-Growth counties, where this population expanded by roughly 160 percent (to 1.6 million). Other counties, which are much more numerous, also experienced a large absolute gain in Hispanic population (over 600,000). The proportion of nonmetro Hispanics residing in high growth counties rose from 38.8 to 47.7 percent during the period, while the share living in Established counties fell from 37.1 to 21.3 percent. The Hispanic share of the population increased in all three settlement types over 1990-2009. This change was most dramatic for high growth areas, where the Hispanic proportion more than doubled from 8.1 to 17.3 percent.

Table 2.2 displays the mean values of the independent variables. The Hispanic share of the male labor force rose appreciably in High-Latino-Growth counties between 2000 and 2009, from an average of 16.7 to 20.0 percent. By far the leading economic specializations for new destinations are farming/mining and manufacturing; slightly over one half of the counties fall into one of these two categories. In addition, roughly 20 percent of rural locations with rapid Latino influx are classified as retiree destinations. The major difference between the complete set of counties and those in the African American subsample is regional location. While 57 percent of all new destinations are in the Census South, 88 percent of those with a significant black population are.[2]

[2] High-Latino-Growth counties generally are fairly similar to Other counties in terms of average characteristics except that the former are somewhat more likely to be retiree destinations and located in the South.

Table 2.1 Latino Population Size, Latino Residential Distribution, and Residences' Percentage Latino, 1990 and 2009, by Nonmetro Settlement Type

	Number of Latinos			Latino residential distribution			Residences' percentage Latino		
	1990	2005-2009	% +/-	1990	2005-2009	% +/-	1990	2005-2009	% +/-
Established Latino Counties	568,829	695,573	22.28	37.08	21.32	-42.50	39.39	42.22	7.18
High-Latino-Growth Counties	595,174	1,555,621	161.37	38.80	47.68	22.89	8.13	17.26	112.30
Other Counties	369,929	1,011,375	173.40	24.12	31.00	28.52	1.06	2.67	151.89
All Counties	1,533,932	3,262,569	112.69	100.0	100.0	---	3.51	6.72	91.45

Table 2.2 Mean Values of Independent Variables: High-Latino-Growth Counties

	All residents	White residents	Black residents
Latino % of male labor force 2000	16.7	16.7	14.6
Latino % of male labor force 2009	20.0	20.0	18.2
Farming/mining	0.233	0.233	0.181
Manufacturing	0.306	0.306	0.353
Federal government	0.102	0.102	0.147
Services	0.061	0.061	0.052
Retiree destination	0.196	0.196	0.224
% of men graduated high school 2000	57.3	61.9	56.6
% of men graduated college 2000	15.1	18.1	9.4
South	0.571	0.571	0.879
N	245	245	116

Table 2.3 presents High-Latino-Growth cross-county averages of the economic characteristics of all, white, and black residents for 2000 and 2009. The figures are disaggregated by level of Hispanic work force growth. The one third of new destinations that had the smallest increase in the Latino proportion of the labor force over 2000-2009 are classified as Low Hispanic Labor Force Expansion; the Medium and High Expansion categories are defined analogously. In contrast to the strong improvement in new destination economic conditions observed during the 1990s (Crowley & Lichter, 2009) the 2000s were in important respects a period of stagnation for these areas (unsurprising given the national recessions occurring at the time). The average unemployment rate climbed from 5.7 to 6.8 percent, and the child poverty rate increased from 19.8 to 23.2 percent. Nevertheless, the median family income average edged up by roughly 1 percent. Changes in unemployment and poverty rates differ little between whites and blacks. However, there are major racial disparities in earnings trajectories. The cross-county mean of white median family incomes rose by almost $2,000, while that of blacks fell $800. In both the starting and ending years, African American new destination residents were in a more precarious economic position than whites. For instance, the average black male unemployment rate in 2000 (13.4 percent) was over three times larger than that of white men (4.4 percent). A similar inequality obtains for child poverty rates.

The last three columns of Table 2.3 suggest a moderate, negative relationship between Hispanic labor force growth and the economic well-being of new destination residents. For example, the average child poverty rate rose by 2.8 percentage points in Low Hispanic Labor Force Expansion counties, by 3.4 in Medium Expansion counties, and by 4.0 in High Expansion counties. White residents also display this pattern. Nevertheless, the figures on blacks do not reveal a clear association between Hispanic labor market entry and changes in economic

Table 2.3 Change in Residents' Economic Characteristics between 2000 and 2009: High-Latino-Growth Counties

	All High-Latino-Growth counties			Low Hispanic Labor Force Expansion			Medium Hispanic Labor Force Expansion			High Hispanic Labor Force Expansion		
	2000	2005-2009	% +/-	2000	2005-2009	% +/-	2000	2005-2009	%+/-	2000	2005-2009	%+/-
All residents												
Male unemployment rate	5.7	6.8[a]	19.3	6.1	7.1[a]	16.4	5.8	6.9[a]	19.0	5.2	6.6[a]	26.9
Median family income	49,059	49,516	0.9	49,555	50,825	2.6	50,019	50,721	1.4	47,611	47,019	-1.2
Child poverty rate	19.8	23.2[a]	17.2	19.7	22.5[a]	14.2	19.4	22.8[a]	1.8	20.3	24.3[a]	19.7
N	245			81			82			82		
Whites												
Male unemployment rate	4.4	5.7[a]	29.5	4.6	5.8[a]	26.1	4.6	5.9[a]	28.3	4.0	5.5[a]	37.5
Median family income	53,943	55,926[a]	3.7	55,281	57,664[a]	4.3	54,323	56,526	4.0	52,240	53,607	2.6
Child poverty rate	13.2	15.2[a]	15.2	12.7	13.9	9.4	13.4	15.1	12.7	13.4	16.5[a]	23.1
N	245			81			82			82		
Blacks												
Male unemployment rate	13.4	14.5	8.2	12.7	14.1	11.0	15.5	15.0	-3.2	12.1	14.3	18.2
Median family income	31,793	30,983	-2.5	33,208	33,389	0.5	31,300	31,807	1.6	30,908	27,816	-10.0
Child poverty rate	39.1	40.8	4.3	34.7	36.7	5.8	42.8	40.2	-6.1	39.5	45.3	14.6
N	116			38			39			39		

[a] sig. different from 2000 estimate, $p<0.05$

outcomes. African American unemployment and child poverty did increase more sharply in the High Expansion counties than in the Low Expansion counties; additionally, average median black family income rose slightly in the Low Expansion group, but fell by 10 percent in the High Expansion category. However, blacks living in Medium Expansion counties fared better with respect to change in the three economic indicators than their counterparts in the other two categories.

Tables 2.4 displays the regression results for the impact of Latino in-migration on new destination residents' economic outcomes over 2000-2009. For all inhabitants, whites, and blacks, the estimated effect of Hispanic labor force expansion on male unemployment is small and insignificant. This finding does not rule out the possibility that Latino influx affects levels of joblessness, though. Hispanics who cannot find employment and non-Hispanics who lose their jobs to migrant workers may quickly relocate to counties with less economic competition, or they may become discouraged and drop out of the labor market. In either case, economic dislocation would not be well reflected by unemployment figures.

Other results cohere with expectations. Hispanic work force growth is estimated to have a significant, negative effect on the median family income of all new destination residents and African Americans specifically. Net of county economic characteristics, a one percentage point increase over 2000-2009 in the Hispanic proportion of the county's male civilian labor force is predicted to reduce contemporaneous change in the median family income by approximately $255 for all residents and by $519 for blacks. The estimated marginal effect for the African American population seems substantively large, equaling 1.6 percent of the median black family income in 2000. There is also a negative association between Hispanic labor force expansion

Table 2.4 First Difference Regression of 2000-2009 Change in Economic Outcomes on Change in the Hispanic Proportion of the Civilian Male Labor Force: High-Latino-Growth Counties

	All residents			White residents			Black residents		
	Male unemployment rate	Median family income	Child poverty rate	Male unemployment rate	Median family income	Child poverty rate	Male unemployment rate	Median family income	Child poverty rate
Coefficient	0.095	-255***	0.183	-0.004	-196	0.459*	0.133	-519**	0.906
Standard error (robust)	0.066	84.727	0.154	0.060	145.235	0.242	0.466	239.023	0.631
P-value	0.152	0.003	0.237	0.951	0.178	0.059	0.777	0.032	0.154
R-squared	0.125	0.195	0.073	0.142	0.154	0.127	0.169	0.159	0.084

Note: All multivariate equations include controls for county economic specialization, retiree settlement status, the educational attainment of men in the outcome group; and location in the Census South.

* p < 0.10. ** p < 0.05. *** p < 0.01.

and white median income growth, but the coefficient falls outside the range of statistical significance ($p = 0.178$).

The figures suggest that Hispanic in-migration could put upward pressure on poverty rates. Each of the coefficients is positive and that of whites is marginally significant. A one percentage point rise in the Latino share of the labor force is predicted to increase 2000-2009 change in the white child poverty rate by nearly one half of a percentage point (0.459). This appears to be a sizable effect considering that in the average High-Latino-Growth county in 2000, just 13.2 percent of white children fell below the poverty line.

Judging by the magnitudes of the coefficients for the income and poverty regressions, Hispanic labor migration appears to have a stronger impact on black residents than on whites. To provide a closer comparison, regressions of white economic outcomes were again run but limited this time to only those counties included in the African American new destination subsample. The results (not shown) indicate that Hispanic in-migration has a smaller influence on whites in these largely Southern locations. The white median income coefficient declines to -138 ($) and the poverty coefficient to 0.087; neither is statistically significant.

DISCUSSION

Over the past two decades, foreign- and native-born Latinos have moved on a large scale to non-traditional destinations in the South and Midwest. Their numbers have swelled in states that had never before received a high volume of non-European migration. Owing in large part to transformations in the meat processing industry, nonmetro counties have received a sizable portion of recent Hispanic population flows. A burgeoning qualitative literature documents varied reactions to the arrival of Latino workers and their families in these rural new destinations. Research suggests that local public officials and business owners are in many cases

positively disposed towards the migrants. From their perspective as overseers of community prosperity, the presence of Hispanic workers is desirable because they assume unpleasant and often risky jobs (e.g. in meat-packing) that no one else will and increase the demand for goods and services produced by local firms. Nevertheless, there is clearly an undercurrent of worry among working-class citizens over Hispanic labor market entry. Such concerns appear to be most acute for economically disadvantaged African American residents, some of whom fear that the migrants will undercut their wages or cost them their jobs.

In this article, data from the decennial Census and the American Community Survey were used to investigate claims regarding the economic repercussions of Hispanic in-migration for rural new destinations. The results from the first difference regressions suggest that expansion in the Latino workforce carries some economic risks for these areas. There is no evidence that Hispanic labor force growth affects unemployment. Nevertheless, an increase in the Latino presence in the economy is associated with a lower county median family income, indicating greater potential demand for public services. Furthermore, in-migration seems to generate additional labor market competition for non-Hispanic residents. Controlling for economic specialization, educational composition, and region, change in the Hispanic share of the male labor force has a significant positive association with the white poverty rate and a negative association with the median black family income. There is indication that Hispanic labor market entry leads to larger declines in economic well-being for African Americans than for whites.

These findings point to the complexity of the effects of Hispanic population dispersion. On the one hand, the arrival of Latinos presumably aids rural communities by expanding the number of producers and consumers, bolstering local economies hit hard by the out-migration of young workers. On the other hand, Hispanics appear to compete to some degree with native

labor. African Americans, who possess limited human capital on average and must contend with considerable social disadvantages, seem especially vulnerable. Latino settlement might aggravate material deprivation experienced by rural and small town blacks and possibly jeopardize some of the gains they have achieved since the Civil Rights Movement. The potential consequences of Hispanic influx could extend beyond the economic realm. Frustrations resulting from migrant-induced economic dislocation (or perceptions thereof) might spill over into the social sphere and harm civic accord. Growing disparities between African Americans and Hispanics in economic outcomes and in other areas, such as educational achievement (Marrow, 2008), could fuel interethnic tension to such an extent that the small town South again becomes the site of serious racial disturbance. In the short-run, dispute resolution mechanisms may be needed to prevent the further development of ethnic division. In the long-run, state and local governments could expand vocational and other educational opportunities for less skilled workers (irrespective of ethnicity) in order to improve occupational mobility and reduce labor competition in the low wage sector. Community leaders and the businesses that recruit large numbers of migrant laborers might also jointly develop plans for minimizing the economic stresses created by any future settlement.

This paper sheds light on important aspects of Hispanic incorporation into new rural destination economies. Still, the preceding analysis has limitations. There is of course the possibility that economic trends correlated with in-migration were not controlled for; Hispanics might be especially drawn to areas in which the employment and earnings opportunities of non-Hispanic workers happen to be contracting. Furthermore, this study did not investigate whether established residents react to arrival of Latino workers by out-migration or exit from the labor

force. If either response does occur at significant levels, an important aspect of the process of economic disruption was missed.

Several important issues concerning the economic consequences of Hispanic influx have yet to be examined with quantitative data. One is the effect that continued in-migration has on the well-being of established Hispanic residents. That is, do Latinos suffer economic decline from competition with new migrants who share their ethnicity? The impacts in this case could well be larger than those experienced by non-Hispanics because of the greater socioeconomic similarities between Latino newcomers and settled Latino inhabitants. Another key issue is how the economic effects of Hispanic settlement are distributed by residents' human capital and occupational characteristics. Are losses largely limited to the least educated, or are they spread more broadly? Do business owners benefit from Hispanic migration, or do they face increased competition as Latinos set up their own companies? An additional unexplored area is the process by which Hispanics enter into and compete in labor markets. What types of jobs do they tend to fill and how does their occupational distribution change with time spent in residence? Is Hispanic growth in a particular field associated with reduced wages for natives in that work category? Studies that explore these topics would help to further our understanding of the dynamics of Hispanic settlement in the new rural destinations.

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Occupational Stratification of Hispanics, Whites, and Blacks in Southern Rural Destinations: A Quantitative Analysis

Richard N. Turner

Cornell University

Abstract

Since the 1990s, many rural communities in the South and Midwest have experienced a significant influx of Latino migrants for the first time. Some studies suggest that the newcomers often take up very low status jobs that native workers are unwilling to perform and form a segmented labor market, while other sources indicate that they heavily compete with established residents (in particular, African Americans) for less-skilled positions. Using microdata drawn from the 2000 Census and the 2008-2010 American Community Survey, this paper examines patterns of occupational stratification between Hispanic, white, black men in the rural South. I seek to identify whether local Hispanic-non-Hispanic economic relations are better characterized by segmentation or competition. In the first stage of the analysis, occupational dissimilarity indexes and status scores are calculated for the groups to map their economic positions in four Southern states with rapidly growing rural Latino populations. In the second stage, regressions are run to investigate the influence of cultural and human capital variables on ethnoracial occupational status disparities and the trajectory of Latino occupational attainment by time spent in the US. The results reveal considerable economic segmentation between Hispanic and established residents of the rural South. Latinos display a high degree of occupational dissimilarity from both whites and blacks owing in large part to their heavy concentration in agricultural jobs, and they rank below whites and blacks in mean occupational status. The multivariate analysis indicates that low levels of English proficiency, US citizenship, and educational attainment largely account for Hispanics' disadvantaged labor market position. In addition, the occupational standing of Latino workers improves with duration of US residence, a relationship that appears to be partly mediated by cultural capital accumulation.

Occupational Stratification of Hispanics, Whites, and Blacks in Southern Rural Destinations: A Quantitative Analysis

Since the 1990s, the US Hispanic population has rapidly dispersed to areas outside of the group's traditional gateway destinations in the Border States of the Southwest. A significant portion of this recent wave of settlement has occurred in the nonmetropolitan South and Midwest. A growing literature now investigates the varied outcomes of Latino social incorporation into these new rural destinations. However, this body of research has yet to articulate the emerging economic relationships between Latino migrants and established residents. Some work indicates that Hispanics tend to take up poorly paid and physically demanding jobs that white and black native inhabitants largely reject (e.g. in meat processing), which implies that Latino workers experience considerable labor market segmentation from their non-Hispanic counterparts (Dunn, Arogones, & Shivers, 2005; Parrado & Kandel, 2008). However, other analyses and reports suggest that migrants are engaged in intense job competition with the African American populations of these areas, with some even arguing that Hispanics are surpassing blacks in socioeconomic status (Marrow, 2008; Swarns, 2006).

The formulation of appropriate public policies pertaining to Hispanic integration likely depends on knowing which of these two scenarios more closely reflects actual social conditions. This study employs occupational microdata obtained from the 2000 Decennial Census and the 2008-2010 files of the American Community Survey (ACS) to ascertain whether ethnoracial economic relations in nonmetro new destinations are characterized more by segmentation or competition. The focus is on the Southern US where most rural African Americans live and, consequently, where concerns about the economic effects of Latino influx are most pronounced. The analysis has two stages. In the first, occupational dissimilarity indexes and status scores are

calculated for Hispanic, white, and black men in the nonmetro portions of four Southern states home to rapidly growing rural Latino populations with the goal of mapping the relative positions of these groups in the respective labor market areas. In the second stage, a series of regressions of occupational attainment is run for each state to examine the influence of ethnic variation in cultural and human capital characteristics on occupational inequalities as well as the effect of time spent in the US on Latino occupational status.

BACKGROUND

Recent Patterns of Hispanic Migration

The past two decades have witnessed a remarkable spatial deconcentration of the US Hispanic population. First, there has been a major shift in the destination choices of Latin American immigrants. For much of the 20th century, recent arrivals from Mexico clustered in a few "gateway" states, especially California and Texas. The situation changed suddenly in the 1990s. The 1990 Decennial Census reveals that 62.7 percent of Mexican immigrants who had moved to the US in the previous five years lived in California, but by 2000 this figure had fallen to 28.2 percent. Likewise, the probability of recent non-Mexican Hispanic immigrants settling in California or New York declined during this period. In the meantime, several states in the South and Midwest began to absorb appreciable portions of the Latino immigrant stream, including Georgia, Minnesota, and North Carolina (Massey & Capoferro, 2008, pp. 37-41). The US-born Hispanic population has also grown more dispersed. Crowley, Lichter, and Qian (2006) find that the proportion of native-born Mexican-origin householders 18 to 64 years old residing in the Southwest (i.e. Arizona, California, Colorado, New Mexico, and Texas) decreased from 83.0 to 78.6 percent between 1990 and 2000 (p. 351)

An important component of this general trend has been the settlement of Hispanics in rural areas and small towns far from the traditional gateway states (Donato, Tolbert, Nucci, & Kawano, 2008; Kandel & Cromartie, 2004; Koball, Capps, Kandel, Henderson, & Henderson, 2008). The total nonmetro Latino population grew by two-thirds in the 1990s from approximately 1.9 to 3.2 million. Furthermore, the percentage of all rural Latinos living in the Southwest (as defined above) declined from 62 to 51 percent while the share in the South and Midwest climbed from 22 to 34 percent (Kandel & Cromartie, 2004, p. 9-10). Hispanic demographic expansion has been especially rapid in the Southern US with the eight states registering the largest percent increases in rural Hispanic residents between 1990 and 2000 all located in the region. For instance, North Carolina's nonmetro Latino population expanded 416 percent and Georgia's, 321 percent (Kandel & Cromartie, 2004, p. 44).

Massey and Capoferro (2008) propose several explanations for the emergence of the new Hispanic destinations. Some focus on the unintended consequences of immigration control policies. For example, the authors argue that selective escalation of security along the US-Mexico border at the San Diego and El Paso crossings in the early- to mid-1990s redirected the flow of undocumented immigrants away from California and Texas. They also posit that economic opportunities – in food processing, agriculture, and construction -- have drawn migrants to non-traditional locations, noting that states in the South and Mountain West generally had higher levels of job growth and lower unemployment during the 1990s than economically troubled California (Massey & Capoferro, 2008, pp. 30-32).

Hispanic Workers in New Rural Destinations: Segmentation or Competition?

The social repercussions of Hispanic migration to new rural destinations have attracted the interest of researchers, and a literature has recently emerged that focuses on how Latino

workers and their families are faring in these settings as well as on how the communities which they join are affected by the process of settlement. The specific topics which have been examined range from patterns of residential segregation (Lichter, Parisi, Taquino, & Grice, 2010) to Latinos' usage of public services such as healthcare (Griffith, 2008) to in-migration's reversal of long-term localized population loss (Donato et al., 2008).

One of the issues most frequently addressed is the incorporation of Latino newcomers into rural economies (e.g. Crowley & Lichter, 2009; Koball, Capps, Kandel, Henderson, & Henderson, 2008; Marrow, 2008; Newman, 2003; Parrado & Kandel, 2008). Nevertheless, existing work has not provided a clear picture of Hispanic workers' position in local labor markets. Two potential modes of economic integration can be discerned in these studies. On the one hand, some analyses indicate that Hispanic migrants concentrate in very low status occupations that white and black native residents typically avoid and thus experience a high level of labor market segmentation from non-Hispanics. On the other hand, other sources suggest that Latino workers are climbing the economic ladder and competing intensively with working class African Americans for jobs.

Parrado and Kandel's (2008) analysis is suggestive of the first mode of incorporation. The authors conceptualize Latino migration to new rural destinations in terms of Piore's (1979) duel-labor market theory. This framework posits that the development of international migration flows is linked to localized shifts in the demand for labor within particular industries. In the US and other economically modern societies, labor markets are bifurcated into a primary and a secondary sector. The primary sector is characterized by stable and well-compensated positions that provide opportunities for advancement, while work in the secondary sector is distinguished by "instability of employment, seasonality of labor demand, limited occupational

mobility, and poor job quality." Companies often face a challenge when they seek to increase the amount of labor engaged in secondary economic tasks. American-born workers are typically averse to these jobs on account of their low status and are often unwilling to perform them at feasible compensation levels. For this reason, firms may recruit immigrant workers to meet their labor needs. This is often practicable even when native recruitment is not because immigrants evaluate these positions according to the living standards of their countries of origin rather than those of the US (Parrado & Kandel, 2008, 102). Based on these suppositions, Parrado and Kandel argue that change in the number and geographic distribution of secondary sector jobs has played an important role in the emergence of new Hispanic destinations. Indeed, the authors document that expansion of employment in agriculture, meat processing, and other forms of manufacturing in nonmetro counties between 1980 and 2000 is associated with greater increase in Latino numbers over the period. They conclude:

> If there is one central point to our analysis, it is that Hispanic population growth in new and traditional destinations originates from the growing demand and changing preferences of American consumers for fundamental goods and services, such as food and housing. (Parrado & Kandel, 2008, pp. 103, 112-113, 119)

If Hispanics are being drawn to new rural destinations by work that does not suit US-born residents, then one might expect significant labor market segmentation to exist between Hispanics and others in these areas. Indeed, the qualitative literature provides abundant evidence that nonmetro Latinos cluster in jobs that non-Hispanics do not find desirable. Dunn et al. (2005) find that recent Mexican and other Hispanic settlement in the rural areas of the Delmarva Peninsula (which forms the eastern shore of the Chesapeake Bay) has been motivated to a large extent by the prospect of work in meat processing. The Peninsula is the site of 13 poultry

processing facilities, making it one of the top broiler-producing areas in the United States. The authors report that the industry has had to contend with recurring labor shortages partly because younger African Americans are less willing than their forebears (who at one time formed the "backbone" of the workforce) to accept the low pay and difficult (and even dangerous) conditions typical of the sector. Firms have responded to this situation by utilizing Hispanic workers to meet their labor needs (Dunn et al., 2005, pp. 155-161).

Griffith (2005) notes a similar process of ethnic succession in North Carolina's blue-crab processing industry. The composition of the workforce transitioned from primarily black to primarily Mexican in the late 1980s as companies recruited immigrant labor through the H-2 visa program. This strategy appears to have been pursued in response to a decline in the supply of black female workers. African American women's participation in blue-crab production seems to have fallen off due to the development of alternative economic opportunities, including jobs in tourism and in the provision of health services to the aged (Griffith, 2005, pp. 67-68). Other examples of Hispanics filling labor gaps in primary goods production includes thoroughbred horse breeding and tobacco growing in Kentucky (Rich & Miranda, 2005), mushroom picking in Pennsylvania (Shutika, 2005), and tree planting in Alabama (McDaniel & Casanova, 2003).

In addition, there is reason to suspect that many labor migrants are effectively confined to a low occupational status for an extended period. Kandel and Cromartie (2004) document that 63 percent of Hispanics at least 25 years old living in new rural destination counties in 2000 lacked a high school education, compared to just 20 percent of whites. Moreover, most foreign-born residents of these locations who had moved to the US in the previous 20 years did not possess US citizenship and only around one half of working age individuals (18-64) who spoke Spanish at home were capable of speaking English well (Kandel & Cromartie, 2004, p. 19-21). Limited

human and cultural capital could therefore hinder the economic mobility of a large proportion of Latino workers.

Taken together, this research suggests that Hispanics in new rural destinations are highly specialized in low skill, low wage jobs and have limited involvement in the labor markets of native residents. If this is the case, job competition between Hispanics and long-term inhabitants should be muted. However, other analyses provide evidence that Latinos are competing heavily with and economically displacing significant numbers of established residents (Marrow, 2008; Swarns, 2006). It should first be noted that even if Hispanics migrate to rural communities to perform work that is largely rejected by locals, they may transfer to other (and often better) jobs later. A large portion of the Mexican migrants to Delaware and eastern Maryland interviewed by Dunn et al. (2005) worked in poultry processing at the beginning of their stay, but most who had expressed aversion to this line of work and indicated that they used it as a stepping stone to jobs offering superior earnings or working conditions. They usually transitioned into industries such as "landscaping, construction, hotels and restaurants, laundry and linen service, [and] lumber" less than a year after arriving in the region (Dunn et al., 2005, pp. 162-163) Similarly, Griffith (2008) observes that although Mexican migration to Marshalltown, Iowa is driven by prospects of work in meatpacking, over time the migrant population has branched out into "fast food, roofing, casino work, dairies, and other economic sectors" (p. 182). Rich and Miranda (2005) refer to this process of occupational dispersion as "settling out" (p. 194). Needless to say, "settling out" may increase job competition between Hispanic and non-Hispanic residents.

Indeed, the literature also reports concern over Hispanic labor market entry on the part of native workers. In particular, considerable unease about the development has been recorded among African Americans in the rural South (e.g. Marrow, 2008; Rocha & Easterbrook, 2006;

Swarns, 2006). Research suggests not only that many black workers perceive Latino migrants as a threat to their livelihood but also a sense in some quarters that the newcomers are superseding African Americans in the South's socioeconomic hierarchy. In rural Atkinson County, Georgia, members of the two minority groups are reported to "often live and work side by side" and "compete fiercely for working-class jobs." Furthermore, black residents are said to be "losing ground" to Hispanic workers or being "supplanted." One African American mother expressed anxiety about her children's economic futures in the new social context (Swarns, 2006). Ethnic tensions over employment opportunities and economic mobility are also apparent in eastern North Carolina, where some feel that Latinos are becoming the "more prominent minority group" at the expense of African Americans and even that Hispanic in-migration is stifling blacks' long term quest for social equality (Marrow, 2008, pp. 227-228).

Marrow (2008) argues that the tense relations observed between Hispanics and African Americans in the rural South stem from similarities in their labor market position. Whites are overrepresented in management and other high-skilled occupations while Hispanics concentrate in the low wage sector. Due to their differing economic specializations, whites and Hispanics often interact with each other in a complementary manner. However, African Americans are similar to Hispanics in that they typically assume less-skilled positions and for this reason are more likely to regard the newcomers as competitors (Marrow, 2008, p. 224).

Hispanics may in fact possess an advantage over blacks in regional labor markets in the form of employer perceptions. In the aforementioned Atkinson County, one Mexican informant claimed that local employers have a preference for workers of his nationality because they believe that African Americans cannot be relied on to carry out difficult tasks (Swarns, 2006). Moreover, managers of meat processing facilities in different Southern states have indicated that

they consider their Hispanic employees to possess better work habits (e.g. citing quicker returns from breaks) (Dunn et al., 2005, p. 176; Griffith, 2005, p. 66). Such perceptions may not represent anti-black prejudice as much as a favorable appraisal of Latinos' disposition towards hard, dirty, or dangerous work. In their study of labor recruitment in the onshore manufacturing component of Louisiana's oil industry, Donato and Bankston (2008) refer to these positive qualities of Hispanic workers as "soft skills." They are said to include "motivation" and "ability to interact well with others", contrasting with "hard skills" like mathematical ability. In some cases, the value of such attributes might outweigh productivity disadvantages common to many Latino migrants, such as lack of English proficiency. One Louisiana employer observes that:

> We found that [immigrants] had … pretty much the skills we wanted. The only problem that we had was a language barrier which we worked out pretty well … and we spent twenty-seven months trying to see how we could get them into the country to help us because we lost probably about twenty million dollars' worth of revenue by not having them. (Donato & Bankston, 2008, p. 145)

The workplace efficiency of Hispanic immigrants may originate in their "dual frame of reference." That is, they understand the wages which they earn in the US are superior to what they could obtain in their homeland, which could incline them to invest more effort in their jobs and make fewer demands (Donato & Bankston, 2008, pp. 143-146).

CURRENT STUDY

Specific Aims

The primary aim of the current study is to advance the literature on new rural destinations by providing a quantitative assessment as to whether Hispanic workers living in the nonmetro South cluster in low status occupational niches avoided by local white and black residents or

compete intensely with non-Hispanic natives for employment opportunities. The focus is on the Southern US because the region's sizable rural African American population renders it an especially interesting context of migrant reception. Given their relatively low levels of educational and occupational attainment, black workers might experience significantly greater job competition and economic displacement due to Latino in-migration than their white counterparts. For this reason, the labor market position of African Americans with respect to the Hispanic newcomers is deserving of special attention.

A set of hypotheses based on the work reviewed above are elaborated and then tested with microdata from the 2000 Census and the 2008-2010 files of the American Community Survey. Conditions within four Southern states with fast-growing rural Hispanic populations are examined. The results should help to clarify policy priorities relating to migrant incorporation. Clear evidence that Latinos concentrate in very poorly-compensated and potentially dangerous jobs would likely direct attention to important policy issues such as rates of occupational injury among migrant workers, the effects of unstable work arrangements on Hispanic families, and the prospects for Latino upward mobility across generations. On the other hand, if it is established that Hispanics have rapidly diffused into mainstream economic sectors, problems like excess labor supply in blue collar occupations and ethnic tensions resulting from native economic displacement would probably come to the fore.

Research delving into the social and economic challenges confronting ethnic minorities has typically concentrated on conditions in metropolitan areas, particularly inner cities (e.g. Small, 2004; Wilson, 1987). Arguably, scholars have not given sufficient attention to the difficulties faced by these same groups in nonmetro settings. This paper, along with the studies which it builds upon, help to balance the urban emphasis of prior work by investigating the

economic circumstances of Hispanics and African Americans in rural areas that are currently experiencing major demographic change. It is hoped that the present analysis yields a more complete understanding of the complex needs and vulnerabilities that are emerging with the growth of ethnoracial diversity in American society.

Hypotheses

In the first stage of the analysis, two competing hypotheses regarding the nature of economic interaction between Hispanics and non-Hispanics in the rural South are tested ("segmentation" versus "competition"). The segmentation hypothesis is based on research which suggests that Latino workers cluster in low status jobs that long-time residents avoid (e.g. Parrado & Kandel, 2008). According to this scenario, the economies of the region are characterized by three-tiered ethnic stratification. In keeping with long-observed patterns, whites are the economically dominant group with blacks lagging behind them in local labor markets. Furthermore, Latino workers are located substantially below African Americans in the rural South's economic structure due to their high degree of specialization in the least desirable jobs. In contrast, the competition hypothesis is premised on studies which indicate heavy labor market competition between Hispanic and African American workers (e.g. Marrow, 2008). This perspective posits two-tiered ethnic stratification. As with the segmentation scenario, whites rank above Hispanics and blacks in socioeconomic status. However, the economic standing of Latinos approximates African Americans' in this case. The two minority groups are not very differentiated in their economic roles and, consequently, their members intensely vie with each other for employment. Visual representations of the two hypotheses are displayed in Figures 3.1 and 3.2.

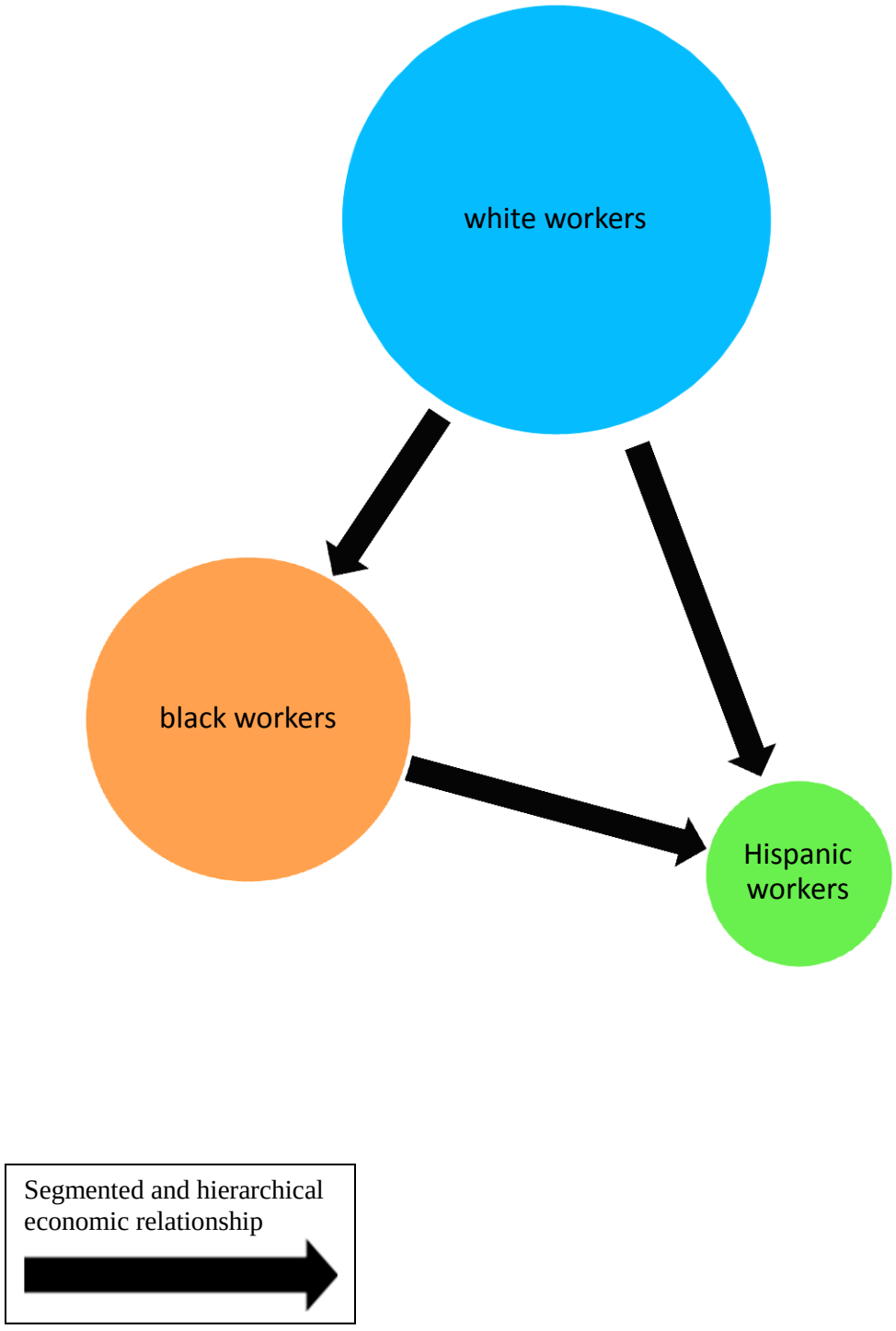

Figure 3.1. The Segmentation Hypothesis

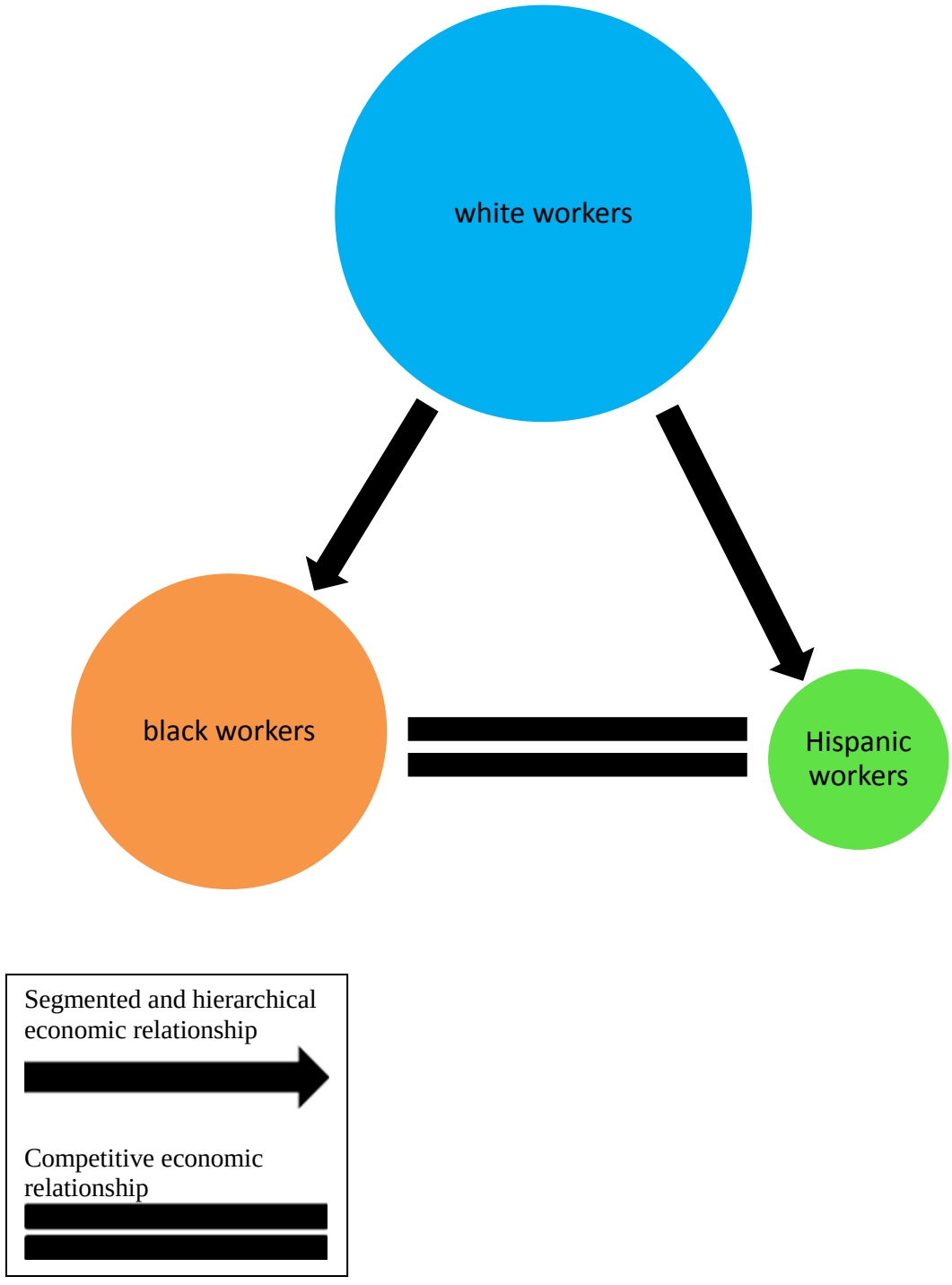

Figure 3.2 The Competition Hypothesis

These models are evaluated with a series of descriptive statistics on occupational stratification between nonmetro Hispanics, whites, and blacks in four Southern states experiencing rapid Latino influx into rural counties: Delaware, Florida, Georgia, and North Carolina. Figures are calculated for both 2000 and 2008-2010 in the hopes of identifying any shifts in the economic relationships between the three groups over time. The demographic of interest is men who were of working age (18-64) and in the civilian labor force at the time of the survey. There is evidence of strong and persistent occupational differentiation by gender in the US and other countries (Browne, 2006). In light of the continuation of sex segregation in the workplace as well as past research revealing that adult Hispanic residents of new rural destinations are disproportionately male (Kandel & Cromartie, 2004, p. 16), it seems fitting to narrow the scope of the analysis to just men.

Dissimilarity indexes (DI) are first calculated to compare the occupational distributions of (1) Hispanics and whites, (2) Hispanics and blacks, and (3) whites and blacks. In this particular application, DI measures occupational segregation, which is interpreted as a proxy for the degree of labor market segmentation or competition between the respective groups. That is, a large dissimilarity would be indicative of significant economic segregation and low levels of job competition. On the other hand, a small dissimilarity would signal that the ethnicities in question are largely undifferentiated in their economic functions and frequently in competition for the same jobs. Additional tabulations are produced to give substantive detail to the DI results. Among these are lists of the occupations with the largest Hispanic-non-Hispanic differences in participation rates – the lines of work which contribute the most to intergroup occupational dissimilarity. Other tables indicate the leading areas of Latino occupational convergence and divergence over 2000-2010, or the job categories for which ethnoracial disparities in

participation rates decreased and increased by the greatest amount, respectively, during the period. The findings here should shed light on key sources of stability and change in labor market dissimilarity over the course of the decade. Finally, mean occupational status scores based on a measure derived from the Hauser and Warren Socioeconomic Index (Hauser & Warren, 1997) are computed for Hispanics, whites, and blacks. These averages ought to be useful in identifying hierarchical inequalities in new rural destination economies since they pinpoint the ethnic groups which tend to fill the more prestigious jobs.

The segmentation and competition hypotheses lead to different sets of expectations concerning the descriptive results. Segmentation implies that the DI scores (or occupational segregation levels) between Hispanics and other ethnoracial populations are sizable. Furthermore, since this model holds that Latinos are of lower average socioeconomic status than African Americans, occupational dissimilarity between Hispanics and whites should be greater than that between whites and blacks. In addition, Hispanics should have a lower mean occupational status than blacks who in turn ought to score below whites. The competition hypothesis also suggests that occupational dissimilarity between whites and each minority group is large, but in this case dissimilarity between Hispanics and blacks is relatively small. Likewise, whites should have a higher average occupational status than Latinos and African Americans, but differences between the two minorities on this metric ought to be negligible.

In the second stage of the analysis (limited to 2008-2010), two hypotheses regarding the dynamics of Hispanic occupational attainment in the rural South are tested. The first hypothesis, which is based on Kandel and Cromartie's (2004) research into the demographic characteristics of new destination populations, posits that Hispanic workers in aggregate have cultural and human capital deficits that reduce their average occupational status relative to the white and

black populations. Due to social conditions in their countries of origin and the selectivity of labor recruitment to the Southern US, it is likely that large proportions of rural Latino residents do not possess extensive English language skills, US citizenship, or a basic level of schooling (e.g. a high school diploma). Deficiencies of such traits should tend to constrain one's ability to compete for all but the lowest status jobs. Individuals lacking English fluency are not in a good position to obtain work that requires verbal communication with native residents (e.g. in sales). Non-citizens in many cases do not have legal sanction to be in the country and might therefore have to restrict their job search activities to avoid detection by authorities. In addition, workers with only a few years of schooling might have difficulty securing employment involving the application of even basic technical skills. Since Hispanics probably score much lower than their white and African American counterparts on each of these measures, ethnic compositional disparities are theorized to decrease Latinos' comparative occupational attainment by a substantial margin.

The second hypothesis is partly derived from Dunn et al.'s (2005) aforementioned observations on the upward mobility of Mexican migrants to rural Maryland and Delaware (pp. 162-163). The supposition is that Latinos accumulate cultural capital as their stay in the US lengthens, which tends to lead to improvement in occupational status over time. Hispanic workers who have spent several years in the country have presumably received greater exposure to the native-born American population (through the workplace, civic organizations, and mass media) than recently-arrived immigrants. Consequently, longer-established Latino residents are more likely to have picked up English skills and to have gained sufficient commitment to the nation to pursue the naturalization process. Given that English fluency and US citizenship are

predicted to enhance labor market outcomes, it follows that a longer duration of residence can be expected to translate into higher occupational attainment for Hispanics, on average.

These arguments are evaluated by means of a multivariate analysis of the occupational standing of nonmetro Hispanics, whites, and African Americans. A sequence of regressions pooling data on the three groups is run for each of the states investigated in stage 1. The previously-mentioned occupational status measure is utilized as the dependent variable. The baseline specification (Model 1) includes only controls for group status and survey year. The Hispanic population is collectively represented with three binary variables that distinguish Latino workers by the amount of time they have spent in the US (i.e. ≤ 5 years, 6-10 years, ≥ 11 years). An additional dummy is included to denote African American respondents, and whites serve as the reference group. The subsequent models incorporate English proficiency and citizenship (2), educational attainment (3), and age and marital status (4) variables. Change in estimated intergroup occupational disparities that occurs with the addition of terms to the regression equations may be interpreted as the potential influence of the respective compositional differences. The first hypothesis would find support if controlling for English proficiency, US citizenship, or educational attainment corresponds to improvement in the predicted occupational attainment of Hispanics relative to other racial groups. The second hypothesis suggests that Latino workers who have lived in the US for more than a decade enjoy higher occupational status than their co-ethnics who have been in the country for 6 to 10 years and that the latter, in turn, hold more prestigious jobs than the most recently-arrived Hispanic immigrants. Additionally, since the acquisition of cultural capital is theorized to drive Latino economic advancement, the observed tenure-based status gradient should flatten after introducing the English proficiency and citizenship variables.

METHODOLOGY

Data

This study relies on individual-level data obtained from the Public Use Microdata Sample (PUMS) of the 2000 decennial Census and the concatenated 2008-2010 files of the American Community Survey. Years 2008 through 2010 of the ACS are combined to increase the number of observations. The 2000 PUMS is a 1-in-20 representative sample of US population that was queried with the Census "long-form," which covered a variety of matters ranging from income to ancestry to disability. The ACS, which yields a 1-in-100 nationally representative sample, has replaced the long form and represents an improvement from a scholarly perspective because it is conducted annually and thus provides more timely information on social and economic conditions. The primary advantage of employing these particular datasets is sample size; by providing large numbers of observations, they allow for the examination of fairly small social groups. This is very important considering that the analytical samples used in this paper are delimited by state, gender, age, metro status, labor force participation, and ethnicity.

Identifying New Rural Destinations

Following earlier research (Koball et al., 2008; Newman, 2003), rural Hispanic destinations are defined as the nonmetro areas within states. States are used to delineate Latino settlement zones primarily because they contain more observations than smaller geographic units and thus permit greater accuracy in the estimation of occupational distributions. County data obtained from Summary File 1 of the 1990 decennial Census and from the 2006-2010 ACS five-year estimates are utilized to identify *new* rural destinations. In the present context, these are Southern nonmetro areas which have not traditionally possessed a large Hispanic population but have experienced significant Latino influx since 1990. Three specific criteria must be met for

the rural sections of a state to be classified as a new destination and included in the analysis. First, the Hispanic proportion of the state's 1990 nonmetro population cannot have exceeded 7.5 percent, which is one-half of a standard deviation above the mean Hispanic proportion of all nonmetro state populations that year. Second, the percentage point change in the proportion of nonmetro residents who are Hispanic occurring between 1990 and 2006-2010 had to have been at least 4.3, or one-half of a standard deviation above the mean change for all nonmetro state populations during the period. Third, the state has to be located in the Census-defined South. This identification approach yields four settlement areas: Delaware, Florida, Georgia, and North Carolina. These states encompass several communities which past qualitative studies treated as new rural destinations (Dunn et al., 2005; Griffith, 2005; Marrow, 2008).

Individual-level data is utilized to enhance the precision of the analysis, but Public Use Microdata Areas (PUMAs) are the smallest geographic unit for which information on the residential location of individual observations is available. PUMAs are multicounty units containing between 100,000 and 200,000 people with some composed only of metro counties, others only of nonmetro counties, and others still counties of both types. Rural areas are approximated with PUMAs consisting entirely of nonmetro counties and "mixed" PUMAs designated as nonmetro based on the proportion of the population living in nonmetro counties (Johnson, 2010). These geographical units are hereafter referred to as "nonmetro PUMAs." Unweighted N-values for all of the groups analyzed are displayed in Table 3.1.

Occupational Classification and Status

All of the occupational categories employed in this paper are based on the Integrated Public Use Microdata Series (IPUMS) modification of the Census Bureau's 1990 occupational scheme. The 1990 Census classification includes a total of 514 categories. The IPUMS variable

Table 3.1 N-values (nonmetro men 18 to 64 in the civilian labor force with an occupational classification)

State	2000			2008-2010		
	Hispanics	**Whites**	**Blacks**	**Hispanics**	**Whites**	**Blacks**
Delaware	116	1, 518	216	129	1, 282	129
Florida	1, 734	11, 089	1, 289	1, 075	6, 583	628
Georgia	994	17, 370	5, 319	644	9, 603	2, 425
North Carolina	1, 506	22, 420	4, 984	1, 186	13, 599	2, 679

merges some of these, reducing the total number of occupations to 389. The primary benefit of using the latter measure is that it provides consistent categorization across time, including the period covered by this study. Classifications are available for individuals 16 and over who had worked within the previous 5 years. Respondents were asked to report their "primary occupation", which is normally the one from which they received the most earnings or (if there was uncertainty about this) the one in which they spent the most time. The unemployed were classified according to their most recent job if it was held in the previous five years. In the event that more than one occupational response was provided, the first one listed was recorded as the primary occupation. "New workers", or "persons seeking employment for the first time, who had not yet secured their first job," were not categorized (Ruggles et al., 2010).

An IPUMS modification of the Hauser and Warren Socioeconomic Index (referred to hereafter as HWSEI) is used to estimate occupational status. Hauser-Warren (see Hauser & Warren, 1997) is an updated version of the Duncan Socioeconomic Index, the measure with the "widest currency" in the literature on occupational stratification at the national level (Miech, Eaton, & Liang, 2003, p. 444). Hauser-Warren is based on the 1989 General Social Survey (GSS) and the 1990 Decennial Census. The originators used GSS data to regress occupational prestige on within-occupation educational attainment and earnings levels and then employed the resulting model to produce a socioeconomic score for each of the occupations included in the 1990 Census. HWSEI attaches a Hauser-Warren-derived score to each of the 389 occupations included in the IPUMS 1990-basis occupational variable (discussed above). By necessity, new values were assigned to those categories which consist of aggregations of 1990 Census occupational codes. These were calculated as the weighted average of Hauser-Warren scores for the respective 1990 Census occupations (Ruggles et al., 2010).

Occupational Segregation

The dissimilarity index (DI) is utilized to generate a composite measure of ethnic differences in occupational distribution. A mainstay of research on residential and occupational segregation, the DI compares two groups at a time. Values range between 0 and 100 with a given score representing the percentage of one population that would have to switch categories (e.g. occupation) for the categorical distributions of the two populations to be identical. Accordingly, the DI equals zero when groups possess identical distributions and 100 when there is absolutely no categorical commonality between them. Occupational dissimilarity indexes are computed with the following formula:

$$DI = \frac{1}{2}\sum_{i=1}^{n}\left|\frac{P_{ia}}{P_{Ja}} - \frac{P_{ib}}{P_{Jb}}\right|$$

Where a and b are the ethnoracial groups being compared, P_j is the respective ethnicity's total number of male workers in the nonmetro portion of the state, P_i is the number of these men who report *i* as their primary occupation, and n is the number of occupational categories.

As previously noted, the 1990 IPUMS occupational scheme classifies respondents into one of 389 categories. These typically represent very specific lines of work (e.g. bank teller, baker). It seems that the skills required for many of the positions can easily be transferred to other types of jobs, so there is likely to be high levels of worker mobility between some occupations. For this reason, the decision is made to merge the categories into a set of broader designations when calculating the dissimilarity indexes. IPUMS groups all of the 1990-basis occupations under six general headings (e.g. managerial and professional; technical, sales, and administrative), but it seems that relying on these labels would conceal far too much heterogeneity in employment patterns. A more nuanced taxonomy suggesting a total of 39 categories is also provided; this system is used because it seems neither too detailed nor too

general for the purposes of the exercise. A list of the occupational groupings and their associated three-digit IPUMS codes are displayed in Table 3.2.

Regression Analysis

The natural logarithm of HWSEI serves as the dependent variable in each ordinary least squares regression. Converting occupational status to log form offers the benefits of making the residual distributions more normal and improving the interpretability of the coefficients. With this transformation, the estimated effects of the independent variables represent *percent change* in HWSEI.

Cultural capital is measured with English proficiency and citizenship variables. The 2000 Census and the ACS asked respondents to indicate whether they speak only English at home and, if not, whether they speak English "very well", "well", "not well", or "not at all." Individuals who reported speaking English either exclusively or "very well" are classified as English proficient. In Bohon's (2005) study of the employment patterns of Hispanic immigrants, only the latter category consistently predicts higher occupational status among those who speak a non-English language. Citizenship status is captured with a binary variable which codes all respondents who were born in the US, born abroad to American parents, or have undergone the naturalization process as US citizens. Human capital is represented by educational attainment, which is accounted for with three dichotomous terms indicating highest level of completed schooling: high school graduate, some college, or college graduate. High school dropouts are the reference group. The remaining variables are age, marital status, and survey year. Researchers have shown that married men possess higher wages on average than single men of the same age, education, and work experience. It is unclear whether this relationship exists because of selection effects, employer discrimination, or a boost to men's productivity resulting from

Table 3.2 Occupational Classification for Dissimilarity Index Analysis

Occupational Group	**Abbreviation**	**Occupational Codes (IPUMS 1990-basis)**
Executive, administration, and managerial	EAM	003-022
Management related	MR	023-037
Engineers, Architects, and Surveyors	EAS	043-059
Mathematical and Computer Scientists	MACS	064-068
Natural Scientists	NS	069-083
Health Diagnosing	HD	084-089
Health Assessment and Treating	HAAT	095-097
Therapists	TH	098-106
Teachers	TE	154-163
Librarians, Archivists, and Curators	LAAC	164-165
Social Scientists and Urban Planners	SSAUP	166-173
Social, Recreation, and Religious Workers	SRARW	174-176
Lawyers and Judges	LAJ	178-179
Writers, Artists, Entertainers, and Athletes	WAEAA	183-199
Health Technologists and Technicians	HTAT	203-208
Science and Engineering Technicians	SAET	213-225
Other Technicians	OT	226-235
Sales	SA	243-283
Administrative Support	AS	303-389
Private Household	PH	405
Protective Service	PS	415-427
Food preparation and service	FPAS	434-444
Health service	HS	445-447
Cleaning and Building Service	CABS	448-455
Personal Service	PESE	456-469
Farm Operators and Managers	FOAM	473-476
Agriculture, Forestry, and Fisheries (non-managerial)	AFAF	479-498
Mechanics and Repairers	MAR	503-549
Construction Trades	CT	558-599
Extractive	EX	614-617
Precision Production	PP	628-699
Machine Operators	MO	703-779
Fabricators, Assemblers, and Hand Working	FAAHW	783-789
Graders and Sorters in Manufacturing	GASIM	799
Motor Vehicle Operators	MVO	803-813
Rail and Water Transportation	RAWT	823-834
Material moving equipment operators	MMEO	844-859
Helpers, Construction and Extractive	HCAE	865-874
Freight, Stock, and Material Handlers	FSAMH	875-889

marriage (Chiodo & Owyang, 2002). Regardless of its origins, the "marital wage premium" could be reflected in higher occupational status, so a dummy term is included that denotes whether the respondent was married with a spouse present at the time of the survey.

RESULTS

Stage 1 Results

To begin, Table 3.3 presents the ethnic distributions by state of nonmetro men 18 to 64 in the civilian labor force for whom a primary occupation was recorded. Although whites constitute the majority of the labor supply in each new destination, Latinos are everywhere a fast-growing segment of the population. Hispanic workers started out from modest demographic bases in 2000 (4.1- 12.3 percent of the total), but their proportions rose appreciably in subsequent years. The increase in Latino representation has been especially pronounced in Delaware; Hispanics' share of the workforce expanded 4.6 percentage points over the course of the decade, such that they are now close to surpassing the local African American demographic in size. Latinos are most concentrated in rural Florida. In 2008-2010, they accounted for 15.4 percent of the state's male workers, far exceeding the 9.8 percent consisting of blacks. In addition, Hispanics now represent a significant portion of the minority labor force in Georgia and North Carolina, where they were approximately 30 and 50 percent as numerous, respectively, as African Americans by the end of the decade.

Table 3.4 displays the dissimilarity indexes summarizing differences between Hispanics, whites, and African Americans in occupational distribution. These figures suggest that Latinos experience significant, though far from complete, labor market segmentation from whites *and* blacks. In 2000, Hispanic-white occupational dissimilarity ranged from 41.9 (N.C.) to 47.9 (Del.) and the Hispanic-black DI varied from 26.9 (Ga.) to 35.3 (Fla.). Patterns of occupational

Table 3.3 Ethnic Distributions of Workers

Ethnicity	**Delaware**		**Florida**		**Georgia**		**North Carolina**	
	2000	**2008-2010**	**2000**	**2008-2010**	**2000**	**2008-2010**	**2000**	**2008-2010**
Hispanics	6.1	10.7	12.3	15.4	4.1	6.3	5.1	8.2
whites	80.5	75.9	77.8	73.5	74.0	71.3	75.2	72.3
blacks	12.7	11.5	8.5	9.8	21.1	21.0	16.3	16.2
other	0.7	1.8	1.3	1.3	0.8	1.4	3.4	3.3
Total population	36,096	45,206	246, 476	298, 131	388, 881	410, 616	565, 429	607, 518

segregation shifted somewhat in the following years. The moderate changes in the relative economic positioning of Hispanics and whites were not uniform; the Hispanic-white DI declined in Florida and Georgia but rose in Delaware and North Carolina. On the other hand, Hispanic-black dissimilarity increased in every state. By 2008-2010, Hispanic-white dissimilarity varied from 38.3 (Fla.) to 53.9 (Del.), while aggregate occupational differences between Hispanics and blacks ranged from 39.3 (Ga.) to 48.1 (Del.).

Arguing that these numbers reflect substantial segregation is to some extent arbitrary, but if it is taken for granted that occupational disparities between whites and African Americans are sizable then the magnitude of Hispanic economic segmentation can be evaluated by using the white-black DI as a standard. Indeed, Hispanic-black occupational dissimilarity in 2010 exceeded the corresponding white-black dissimilarity value in all four states. This represents something of a change from 2000, when the economic distance between Latinos and blacks was smaller than that between whites and blacks in Delaware and Georgia. In even these cases, however, Hispanic-black DI was fairly close in magnitude (> 85 percent the size of) to the corresponding white-black differences.

Furthermore, Hispanic-white occupational disparities have been consistently greater than those between whites and blacks, sometimes by a substantial degree. For instance, the estimates suggest that 45.7 percent of male Hispanic workers in rural North Carolina in 2008-2010 would have had to change their occupation for the employment distributions of white and Hispanic men in the state to be identical, but elimination of white-black segregation would have required that only 29.8 percent of African Americans take up a different line of work. The fact that Hispanics diverge more from whites in occupational distribution than do blacks suggests considerable labor

Table 3.4 Occupational Dissimilarity Indexes

State	2000			2008-2010		
	Hispanic/ White	Hispanic/ Black	White/ Black	Hispanic/ White	Hispanic/ Black	White/ Black
Delaware	47.9	33.8	37.5	53.9	48.1	40.5
Florida	42.7	35.3	28.9	38.3	39.4	27.6
Georgia	44.5	26.9	30.8	41.9	39.3	33.2
North Carolina	41.9	31.3	28.6	45.7	39.4	29.8

market separation between Hispanics and whites. It is also an indication that Latinos as a group occupy a lower socioeconomic position in the rural South than African Americans.

Table 3.5 lists the occupations for which absolute ethnic differences in participation rates were greatest. Evidently, Hispanics' high levels of dissimilarity from whites and blacks are to a large extent located in their specialization in non-managerial agricultural, forestry, and fishery occupations (AFAF). Employment disparities within this sector are the leading source of Hispanic-white occupational dissimilarity in seven of eight state/year combinations and of black-Hispanic dissimilarity in seven state/years. To illustrate the magnitude of Hispanic concentration in agriculture, it is estimated that more than one quarter (28.0 percent) of Latino workers in rural Georgia were in this line of work as of 2008-2010, compared with just 4.1 percent of whites and 5.1 percent of blacks. Further analysis (not shown) reveals that the bulk of Hispanic agricultural laborers in each state at the end of the decade were either "farm workers" or "gardeners and groundskeepers," according to the detailed three-digit IPUMS scheme. In some instances, Latinos were also more heavily specialized as helpers in construction and extractive enterprises (HCAE) and in construction trades (CT). Comparative occupational specializations differ by race. Whites tended to be most overrepresented relative to Latinos in executive, administration, and managerial positions (EAM) and in sales (SA). In a few cases, blacks exceeded Hispanics by the greatest margins in motor vehicle operation (MVO) and protective services (PS), which encompasses police and guard jobs. Nevertheless, some Hispanic workers can also be found in these and many other fields.

Tables 3.6 and 3.7 present the leading areas of Latino occupational convergence and divergence, respectively, over 2000-2010. Major shifts in the occupational distributions of rural Hispanic workers occurred during this time despite limited change in their overall socioeconomic

Table 3.5 Occupations with the Largest Ethnic Differences in Participation Rates

State	2000				2008-2010			
	Hispanic/White		Hispanic/Black		Hispanic/White		Hispanic/Black	
	Occ.	Hisp. %/ white %	Occ.	Hisp. %/ black %	Occ.	Hisp. %/ white %	Occ.	Hisp. %/ black %
Delaware	PP	17.8/3.4	PP	17.8/2.9	AFAF	35.7/3.9	AFAF	35.7/6.1
	FPAS	15.3/3.4	FPAS	15.3/7.3	EAM	1.9/12.0	MVO	1.1/11.9
	MO	11.9/3.2	MVO	3.6/11.6	HCAE	12.7/2.8	CT	16.4/7.7
	SA	4.2/12.7	MAR	5.0/10.7	SA	1.8/11.2	HCAE	12.7/6.9
Florida	AFAF	42.6/5.6	AFAF	42.6/9.7	AFAF	39.2/5.3	AFAF	39.2/7.7
	EAM	1.6/8.1	PS	1.3/7.7	EAM	3.1/9.4	PS	1.7/8.8
	SA	3.9/10.0	MO	3.8/7.8	MAR	3.1/8.5	CABS	2.2/8.1
	PS	1.3/6.5	FPAS	3.7/7.0	SA	5.8/11.1	FPAS	4.0/8.6
Georgia	AFAF	24.8/3.6	AFAF	24.8/6.1	AFAF	28.0/4.1	AFAF	28.0/5.1
	MO	15.2/5.6	MVO	4.6/11.2	HCAE	11.9/3.1	MVO	4.1/14.7
	SA	2.6/9.4	AS	1.7/5.9	EAM	2.7/8.9	HCAE	11.9/3.1
	EAM	1.3/8.0	PS	1.0/4.0	SA	4.0/9.8	CT	10.7/5.9
North Carolina	AFAF	17.4/3.9	AFAF	17.4/4.3	AFAF	22.3/3.8	AFAF	22.3/4.7
	MO	17.3/6.5	MVO	2.6/11.7	CT	20.2/10.6	CT	20.2/6.8
	SA	1.6/9.2	CT	12.7/7.6	EAM	1.7/9.6	MVO	1.7/10.7
	EAM	1.2/8.3	HCAE	6.8/2.7	HCAE	10.0/2.9	HCAE	10.0/2.3

position. Table 3.6 reveals that falling Hispanic participation in machine operation (MO) and precision production (PP) promoted labor market convergence with white and black residents. Interestingly, a major component of the contraction of Latino precision production employment in Delaware and North Carolina consisted of decline in the number of "butchers and meat cutters." Hispanic workers in these states are apparently exiting en masse the meat processing industry that drew so many of them to the rural South in the first place (Dunn et al., 2005; Parrado & Kandel, 2008). Table 3.7 provides evidence that recent trends favoring Latino occupational assimilation have been offset by increasing Hispanic overrepresentation in agricultural and construction-related work. With the partial exception of Florida, larger proportions of Latinos worked in these sectors by the end of the decade than at the start, which in most cases placed upward pressure on dissimilarity from other racial groups.

The mean HWSEI scores presented in Table 3.8 provide additional evidence for the segmentation hypothesis. They reveal a consistent pattern of inequality among the three groups. In every case, Latino men have a lower average HWSEI than African American men who in turn rank below whites. Though blacks fall between Hispanics and whites in occupational status, they cluster closer to Hispanics. Additional analysis indicates that Hispanic agricultural workers have especially low occupational standing. The mean HWSEI of Latinos in this sector varied between 17.6 (Ga.) and 21.0 (Del.) in 2010, while the average status of their co-ethnics in all other sectors ranged from 26.6 (N.C.) to 29.9 (Fla.).

Focusing on changes in occupational stratification between 2000 and 2008-2010 might produce a misleading picture of the trajectory of economic relations in the areas under investigation. While 2000 was a time of macroeconomic expansion, the end of the decade was marked by a tremendous downturn known as the "Great Recession." The most severe contraction

Table 3.6 Leading Areas of Hispanic Occupational Convergence, 2000-2010

State	Hispanic/White			Hispanic/Black		
	Occ.	Hisp.%/ white% 2000	Hisp. %/ white% 2008-2010	Occ.	Hisp. %/ black % 2000	Hisp. %/ black % 2008-2010
Delaware	PP	17.8/3.4	3.2/3.7	PP	17.8/2.9	3.2/1.1
	FPAS	15.3/3.4	4.7/3.9	FPAS	15.3/7.3	4.7/6.0
	MO	11.9/3.0	3.8/2.4	CABS	1.7/6.6	0.8/3.2
	MAR	5.0/8.7	6.7/7.6	HD	3.0/1.0	0.0/0.0
Florida	AFAF	42.6/5.6	39.2/5.3	FSAMH	3.1/6.2	3.9/5.4
	CT	7.1/12.2	9.2/11.8	AFAF	42.6/9.7	39.2/7.7
	AS	3.0/5.4	4.7/5.5	AS	3.0/6.1	4.7/6.6
	SA	3.9/10.0	5.8/11.1	MO	3.8/7.8	1.4/4.7
Georgia	MO	15.2/5.6	7.5/3.7	MAR	4.0/6.6	4.0/4.6
	FPAS	4.0/1.3	2.9/2.6	AS	1.7/5.9	1.5/4.8
	CT	8.9/11.1	10.7/11.4	MMEO	0.4/1.7	0.6/1.3
	PS	1.0/3.8	2.1/3.7	FOAM	1.9/0.7	0.9/0.3
North Carolina	MO	17.3/6.5	9.5/4.4	PP	8.5/4.6	3.2/3.8
	PP	8.5/5.1	3.2/3.7	SA	1.6/3.5	3.8/3.7
	FSAMH	6.7/2.3	4.9/3.0	MO	17.3/14.6	9.5/10.7
	SA	1.6/9.2	3.8/10.3	MAR	4.6/7.3	4.2/5.4

Table 3.7 Leading Areas of Hispanic Occupational Divergence, 2000-2010

State	Hispanic/White			Hispanic/Black		
	Occ.	Hisp.%/ white% 2000	Hisp. %/ white% 2008-2010	Occ.	Hisp. %/ black % 2000	Hisp. %/ black % 2008-2010
Delaware	AFAF	6.9/2.8	35.7/3.9	AFAF	6.9/3.8	35.7/6.1
	HCAE	3.4/2.5	12.7/2.8	CT	5.7/6.7	16.4/7.7
	AS	4.4/4.8	1.0/8.1	FSAMH	8.2/8.8	5.0/10.3
	EAM	0.9/9.0	1.9/12.0	HCAE	3.4/1.8	12.7/6.9
Florida	HCAE	3.4/2.4	5.1/3.1	MAR	5.4/5.4	3.1/6.8
	MAR	5.4/9.8	3.1/8.5	CABS	1.8/5.0	2.2/8.1
	FSAMH	3.1/2.0	3.9/2.2	CT	7.1/8.5	9.2/5.8
	TE	1.4/2.2	0.8/2.0	MVO	7.7/8.9	5.1/7.7
Georgia	HCAE	5.3/2.5	11.9/3.1	HCAE	5.3/3.5	11.9/3.1
	AFAF	24.8/3.6	28.0/4.1	FPAS	4.0/4.0	2.9/7.3
	PP	6.2/5.3	2.5/4.2	AFAF	24.8/6.1	28.0/5.1
	AS	1.7/5.4	1.5/5.9	MVO	4.6/11.2	4.1/14.7
North Carolina	CT	12.7/12.0	20.2/10.6	CT	12.7/7.6	20.2/6.8
	AFAF	17.4/3.9	22.3/3.8	AFAF	17.4/4.3	22.3/4.7
	HCAE	6.8/2.5	10.0/2.9	HCAE	6.8/2.7	10.0/2.3
	FPAS	3.4/1.8	5.7/3.3	FSAMH	6.7/7.3	4.9/9.0

Table 3.8 Mean HWSEI

State	2000			2008-2010		
	Hispanics	**Whites**	**Blacks**	**Hispanics**	**Whites**	**Blacks**
Delaware	26.9[a]	34.6	28.0[a]	25.1[ab]	35.5	29.4[a]
Florida	24.0[ab]	34.2	28.1[a]	25.2[abc]	34.0	28.6[a]
Georgia	23.6[ab]	34.1	26.8[a]	25.0[abc]	34.1	26.9[a]
North Carolina	24.2[ab]	34.0	27.4[a]	24.6[ab]	34.4[c]	27.9[a]

[a] sig. different from white HWSEI, $p < 0.05$
[b] sig. different from black HWSEI, $p < 0.05$
[c] sig. different from same-ethnicity 2000 HWSEI, $p < 0.05$

of the national economy since the 1930s began in December 2007 (Isidore, 2010) and reached a low-point in October 2009, when the unemployment rate stood at 10.1 percent (Baker, 2010). It is possible that the recession significantly and selectively altered local occupational distributions, though on a temporary basis. For example, major progress on the part of rural Latino workers towards labor market assimilation could have been arrested and reversed by the event. If such is the case, overarching trends in Hispanic occupational segregation could be obscured by comparing only conditions in 2000 and 2008-2010. To explore this possibility, the same sets of dissimilarity indexes discussed above were calculated with the 2006-2007 ACS (just prior to the recession's onset). Sizable differences between these numbers and the aforementioned results would suggest that the recession had a substantive impact on employment patterns. However, this operation yields DI scores (not shown) fairly similar and in most cases intermediate to those calculated for the beginning and ending of the decade.

Stage 2 Results

To provide background for the regression results, Table 3.9 displays the mean values of the independent variables for each group in 2008-2010, with the statistics on Hispanics disaggregated by duration of US residence. In keeping with past research, there is considerable ethnic variation in the distributions of cultural capital characteristics. In all four states, overwhelming majorities (> 90 percent) of whites and blacks are English proficient and US citizens, but the proportion of each Latino subgroup possessing either attribute never reaches 70 percent. As hypothesized, the probabilities that Hispanics are fluent in English and hold citizenship increase with the amount of time they spend in the country. In Georgia, for example, 13.7 percent of rural Hispanic workers who had moved to the US in the past 5 years spoke English "very well" or exclusively and 2.7 percent were US citizens. Among their co-ethnics

Table 3.9 Mean Values of Respondent Characteristics, 2008-2010

	Hispanics				
	In US ≤ 5 years	**In US 6-10 years**	**In US ≥ 11**	**whites**	**blacks**
			Delaware		
Cultural capital					
English proficient	8.4[abcd]	32.6[bcd]	58.0[cd]	99.7	96.2[c]
US citizenship	6.7[bcd]	14.7[bcd]	61.8[cd]	99.0	98.3
Human capital					
< High school	26.3[c]	46.6[cd]	34.0[cd]	7.1	13.4[c]
High school	66.0[abc]	31.5[d]	40.1[d]	45.9	62.7[c]
Some college	3.3[bcd]	13.6	21.5	23.2	18.4
College	4.3[c]	8.3[c]	4.4[c]	23.8	5.5[c]
Age	32.0[bcd]	29.6[bcd]	36.9[c]	43.2	39.8[c]
Married, spouse present	13.9[bcd]	26.0[bc]	49.7	52.9	38.6[c]
			Florida		
Cultural capital					
English proficient	9.4[abcd]	17.4[bcd]	62.6[cd]	98.9	95.6[c]
US citizenship	3.5[abcd]	10.8[bcd]	66.1[cd]	98.7	93.9[c]
Human capital					
< High school	66.5[bcd]	62.1[bcd]	38.9[cd]	11.6	17.4[c]
High school	24.7[bcd]	24.1[bcd]	35.2[cd]	48.9	52.7
Some college	5.5[bcd]	5.8[bcd]	15.5[cd]	22.8	21.9
College	3.4[bcd]	8.0[c]	10.4[c]	16.7	8.0[c]
Age	30.5[bcd]	32.1[bcd]	38.7[c]	42.5	38.5[c]
Married, spouse present	10.9[bcd]	16.1[bcd]	51.7[cd]	57.5	36.9[c]

[a] sig. different from Hispanics in the US 6-10 years, p<0.05
[b] sig. different from Hispanics in the US 11+ years, p<0.05
[c] sig. different from whites, p<0.05
[d] sig. different from blacks, p<0.05

Table 3.9 - *continued*

	Hispanics				
	In US ≤ 5 years	**In US 6-10 years**	**In US ≥ 11**	**whites**	**blacks**
		Georgia			
Cultural capital					
English proficient	13.7[abcd]	35.7[bcd]	57.6[cd]	99.6	99.7
US citizenship	2.7[abcd]	8.3[bcd]	56.2[cd]	99.7	99.8
Human capital					
< High school	59.5[bcd]	67.2[bcd]	40.6[cd]	14.0	17.8[c]
High school	31.9[cd]	27.0[bcd]	40.4[cd]	47.0	61.2[c]
Some college	7.4[cd]	2.2[bcd]	9.7[cd]	22.1	16.2[c]
College	1.1[bcd]	3.6b[c]	9.2[cd]	16.9	4.9[c]
Age	28.4[abcd]	33.8[cd]	35.6[cd]	41.4	39.9[c]
Married, Spouse present	14.1[abcd]	40.0[bc]	52.0[cd]	63.1	38.8[c]
		North Carolina			
Cultural capital					
English proficient	10.6[bcd]	16.4[bcd]	51.5[cd]	99.7	99.7[c]
US citizenship	3.5[bcd]	5.7[bcd]	43.7[cd]	99.5	99.3[c]
Human capital					
< High school	63.5[bcd]	59.3[bcd]	45.4[cd]	10.6	16.7[c]
High school	29.4[cd]	33.5[cd]	32.5[cd]	43.2	51.2[c]
Some college	3.9[bcd]	5.1[bcd]	16.1[cd]	26.6	23.9[c]
College	3.2[cd]	2.1[bcd]	6.0[cd]	19.7	8.2[c]
Age	28.3[abcd]	30.7[bcd]	37.3[cd]	42.0	40.5[c]
Married, Spouse present	12.2[abcd]	30.2[bcd]	52.6[cd]	62.2	40.8[c]

[a] sig. different from Hispanics in the US 6-10 years, $p<0.05$
[b] sig. different from Hispanics in the US 11+ years, $p<0.05$
[c] sig. different from whites, $p<0.05$
[d] sig. different from blacks, $p<0.05$

resident 6 to 10 years, these numbers rise to 35.7 and 8.3 percent, respectively. Finally, slight majorities (≈ 57 percent) of the longest-settled Latinos possessed these characteristics. The positive, monotonic relationship observed between tenure and the acquisition of English and citizenship indicates that exposure to American society promotes Latino cultural integration.

Turning to human capital differentials, one pattern that stands out is the large share of the Hispanic workforce that has not completed high school. For each residency category, this proportion far exceeds the high school dropout prevalence of both the white and black populations. For instance, 38.9 percent of Florida Latinos who had lived in the US for at least a decade had not graduated from high school, compared to 11.6 percent of whites and 17.4 percent of African Americans. In addition, whites are significantly more likely than Hispanics to have a college degree. The educational profile of Hispanics does not consistently improve with time spent in the country. In Delaware and Georgia, Latinos resident 6 to 10 years were *less* likely to have a high school diploma than the most recent immigrants, perhaps a manifestation of temporal variability in immigrant selectivity.

The last two rows present the statistics on age and marital status. Latinos who have lived in the US for a longer period tend to be older than their co-ethnics who immigrated more recently. Be that as it may, Hispanic workers generally are more youthful than their white counterparts; their mean age ranges from the late 20s to 30s while the average white worker is in his early 40s. African Americans are of intermediate age to whites and most Hispanic subgroups. Latinos' probability of living with a spouse increases with length of residence. Between 11 and 14 percent of recent-arrivals had a co-resident wife, as opposed to around one half of the longest-established residents. This might partly reflect the popularity of a migration

strategy in which men move to the United States alone in search of work and send for their wife or partner once they have secured stable employment (Rich & Miranda, 2005).

Table 3.9 demonstrates that Hispanic workers in the rural South are at a considerable disadvantage with respect to white and black natives in terms of cultural and human capital. In addition, the figures show that Hispanics who settled in the US more recently are less likely to be proficient in English and have citizenship rights than earlier-arrivers. The aim of the multivariate analysis is to investigate how these disparities shape corresponding occupational attainment inequalities. Table 3.10 presents results from the regressions of HWSEI conducted for Delaware, Florida, Georgia, and North Carolina.[3] Model 1, the baseline specification, includes only the binaries denoting group status (reference = non-Hispanic white) and survey year as independent variables. Two notable findings emerge from this initial set of exercises. First, in the absence of demographic controls, Latino workers lag significantly behind whites in occupational attainment regardless of duration of residence. Moreover, though typically possessing a lower occupational status than whites, African Americans have a higher predicted HWSEI than the three Hispanic categories as well. Second, the labor market position of Latinos improves markedly with time spent in the country. In three states, the HWSEI of Hispanic workers who had moved to the US in the past 5 years is estimated to fall roughly 43 to 45 percent below that of whites. Newly-arrived immigrants living in Florida are somewhat more disadvantaged (57.6 percent). The status decrements of Latinos with 6 to 10 years of US experience are noticeably smaller - roughly 35 percent in Florida, Georgia, and North Carolina and 26.6 percent in Delaware. Finally, among those who have resided in the US for more than a decade, occupational attainment varies from 18.2 (Fla.) to 25.7 (N.C.) percent below white

[3] None of the variables in the fully specified models has a variance inflation factor (VIF) greater than 10 (commonly regarded as the threshold value for serious multicollinearity). The largest VIFs are those for the citizenship term (≈ 3.7)

Table 3.10 Regression of Ln(HWSEI), 2008-2010

	Model 1		**Model 2**		**Model3**		**Model 4**	
variable	***b***	**s.e.**	***b***	**s.e.**	***b***	**s.e.**	***b***	***s.e.***
			Delaware					
Ethnicity (reference = White)								
Hispanic								
In US ≤ 5 years	-0.426***	0.033	-0.271***	0.098	-0.192**	0.096	-0.153	0.097
In US 6-10 years	-0.266***	0.063	-0.149	0.109	-0.070	0.091	-0.030	0.090
In US ≥ 11 years	-0.198***	0.036	-0.128**	0.056	-0.034	0.059	-0.030	0.064
Black	-0.192***	0.041	-0.186***	0.041	-0.096**	0.037	-0.081**	0.037
Cultural capital								
English proficient	---	---	0.159**	0.067	0.085	0.063	0.077	0.063
US citizenship	---	---	0.011	0.105	0.002	0.080	-0.002	0.077
Human capital (reference = < High school)								
High school	---	---	---	----	0.164***	0.029	0.160***	0.030
Some College	---	---	---	---	0.300***	0.037	0.289***	0.037
College	---	---	---	---	0.584***	0.039	0.551***	0.040
Age	---	---	---	---	---	---	0.002**	0.001
Married, spouse present	---	---	---	---	---	---	0.098***	0.021
Survey year (reference = 2008)								
2009	0.007	.029	0.008	0.028	-0.021	0.026	-0.018	0.025
2010	-0.044	.029	-0.045	0.029	-0.037	0.026	-0.040	0.026

* p < 0.10. ** p < 0.05. *** p < 0.01.

N = 1, 540; Model 1 R^2 = 0.095; Model 2 R^2 = 0.100; Model 3 R^2 = 0.315; Model 4 R^2 = 0.342

Table 3.10 - *continued*

	Model 1		Model 2		Model3		Model 4	
variable	***b***	**s.e.**	***b***	**s.e.**	***b***	**s.e.**	***b***	***s.e.***
				Florida				
Ethnicity (reference = White)								
Hispanic								
In US ≤ 5 years	-0.576***	0.024	-0.327***	0.033	-0.279***	0.032	-0.213***	0.032
In US 6-10 years	-0.364***	0.034	-0.135***	0.042	-0.102***	0.036	-0.043	0.036
In US ≥ 11 years	-0.182***	0.016	-0.089***	0.019	-0.058***	0.017	-0.047***	0.017
Black	-0.169***	0.017	-0.158***	0.018	-0.120***	0.016	-0.097***	0.016
Cultural capital								
English proficient	---	---	0.139***	0.030	0.079***	0.025	0.091***	0.025
US citizenship	---	--	0.131***	0.028	0.100***	0.025	0.102***	0.024
Human capital (reference = < High school)								
High school	---	--	---	---	0.105***	0.012	0.095***	0.012
Some college	---	---	---	----	0.234***	0.014	0.216***	0.014
College	---	---	---	---	0.499***	0.016	0.462***	0.016
Age	---	---	---	---	---	---	0.002***	0.000
Married, spouse present	---	---	---	---	---	---	0.094***	0.009
Survey year (reference = 2008)								
2009	-0.006	0.011	-0.009	0.011	-0.013	0.010	-0.014	0.010
2010	-0.012	0.011	-0.015	0.011	-0.015	0.010	-0.014	0.010

N = 8, 286; Model 1 R^2 = 0.135; Model 2 R^2 = 0.151; Model 3 R^2 = 0.317; Model 4 R^2 = 0.340

Table 3.10 – *continued*

	Model 1		Model 2		Model3		Model 4	
variable	***b***	**s.e.**	***b***	**s.e.**	***b***	**s.e.**	***b***	***s.e.***
				Georgia				
Ethnicity (reference = White)								
Hispanic								
In US ≤ 5 years	-0.447***	0.026	-0.252***	0.048	-0.158***	0.046	-0.072	0.046
In US 6-10 years	-0.358***	0.025	-0.193***	0.044	-0.088**	0.041	-0.042	0.041
In US ≥ 11 years	-0.237***	0.026	-0.146***	0.035	-0.088***	0.032	-0.060*	0.032
Black	-0.231***	0.010	-0.231***	0.010	-0.165***	0.009	-0.142***	0.009
Cultural capital								
English proficient	---	---	0.113***	0.030	0.081***	0.028	0.088***	0.029
US citizenship	---	---	0.102***	0.035	0.085***	0.032	0.095***	0.032
Human capital (reference = < High school)								
High school	---	---	---	---	0.100***	0.009	0.093***	0.009
Some college	--	---	---	---	0.242***	0.011	0.235***	0.011
College	---	---	---	---	0.553***	0.012	0.521***	0.013
Age	---	----	---	---	---	---	0.002***	0.000
Married, spouse present	---	---	---	---	---	---	0.093***	0.008
Survey year (reference = 2008)								
2009	0.006	0.010	0.008	0.009	-0.001	0.008	-0.003	0.008
2010	0.004	0.009	0.004	0.009	-0.002	0.008	-0.001	0.008

N = 12, 672; Model 1 R^2 = 0.099; Model 2 R^2 = 0.103; Model 3 R^2 = 0.306; Model 4 R^2 = 0.335

Table 3.10 – *continued*

	Model 1		Model 2		Model3		Model 4	
variable	***b***	**s.e.**	***b***	**s.e.**	***b***	**s.e.**	***b***	***s.e.***
			North Carolina					
Ethnicity (reference = White)								
Hispanic								
In US ≤ 5 years	-0.438***	0.019	-0.262***	0.035	-0.193***	0.035	-0.109***	0.035
In US 6-10 years	-0.351***	0.020	-0.184***	0.035	-0.110***	0.033	-0.051	0.032
In US ≥ 11 years	-0.257***	0.017	-0.159***	0.026	-0.097***	0.024	-0.078***	0.023
Black	-0.207***	0.010	-0.207***	0.010	-0.144***	0.008	-0.122***	0.008
Cultural capital								
English proficient	---	---	0.108***	0.024	0.050**	0.023	0.059***	0.023
US citizenship	---	---	0.083***	0.027	0.046*	0.024	0.047**	0.023
Human capital (reference = < High school)								
High school	---	---	---	---	0.091***	0.009	0.086***	0.009
Some college	---	---	---	---	0.228***	0.010	0.220***	0.010
College	---	---	---	---	0.559***	0.011	0.530***	0.011
Age	---	---	---	---	---	---	0.002***	0.000
Married, spouse present	---	---	---	---	---	---	0.101***	0.007
Survey year (reference = 2008)								
2009	-0.004	0.008	-0.004	0.008	-0.010	0.007	-0.011	0.007
2010	-0.004	0.008	-0.006	0.008	-0.005	0.007	-0.006	0.007

N = 17, 464; Model 1 R^2 = 0.089; Model 2 R^2 = 0.092; Model 3 R^2 = 0.311; Model 4 R^2 = 0.340

levels. The tendency for the occupational disadvantages of Latinos to contract as their tenure lengthens is consistent with a scenario in which migrant laborers move to the US to take up very low status jobs (e.g. in agriculture, meatpacking) but eventually gain a foothold that allows them to begin climbing the economic ladder (Dunn et al., 2005, pp. 162-163).

Model 2 incorporates the cultural capital variables into the regression equation. The coefficients estimated for both of these characteristics are uniformly positive. Facility with English is predicted to raise HWSEI between 10.8 (N.C.) and 15.9 percent (Del.). Furthermore, US citizenship is associated with a 13.1, 10.2, and 8.3 percent higher occupational standing in Florida, Georgia, and North Carolina, respectively. The Hispanic-non-Hispanic status inequalities estimated in Model 1 are moderated by the introduction of these factors. Looking *within* categories defined by language and citizenship, the occupational attainment gap between recently-arrived Latino immigrants and white workers ranges from 25.2 (G.A) to 32.7 percent (Fla.) – values much smaller than the corresponding figures observed at baseline. Similar attenuation of Hispanic-white status differentials occurs for the other two residency categories. Nevertheless, since African Americans differ little from whites in language and citizenship distributions, white-black disparities in HWSEI are largely unaffected. Accordingly, Hispanics' labor market position improves in comparison to that of black workers as well, such that Latinos with more than five years of US experience possess a higher predicted occupational attainment. These results provide evidence that cultural capital deficiencies impose severe limits on the economic mobility of Hispanic migrants.

To explore whether English skills and citizenship mediate the link between length of stay and occupational attainment among Hispanics, Models 1 and 2 were run for a second time using

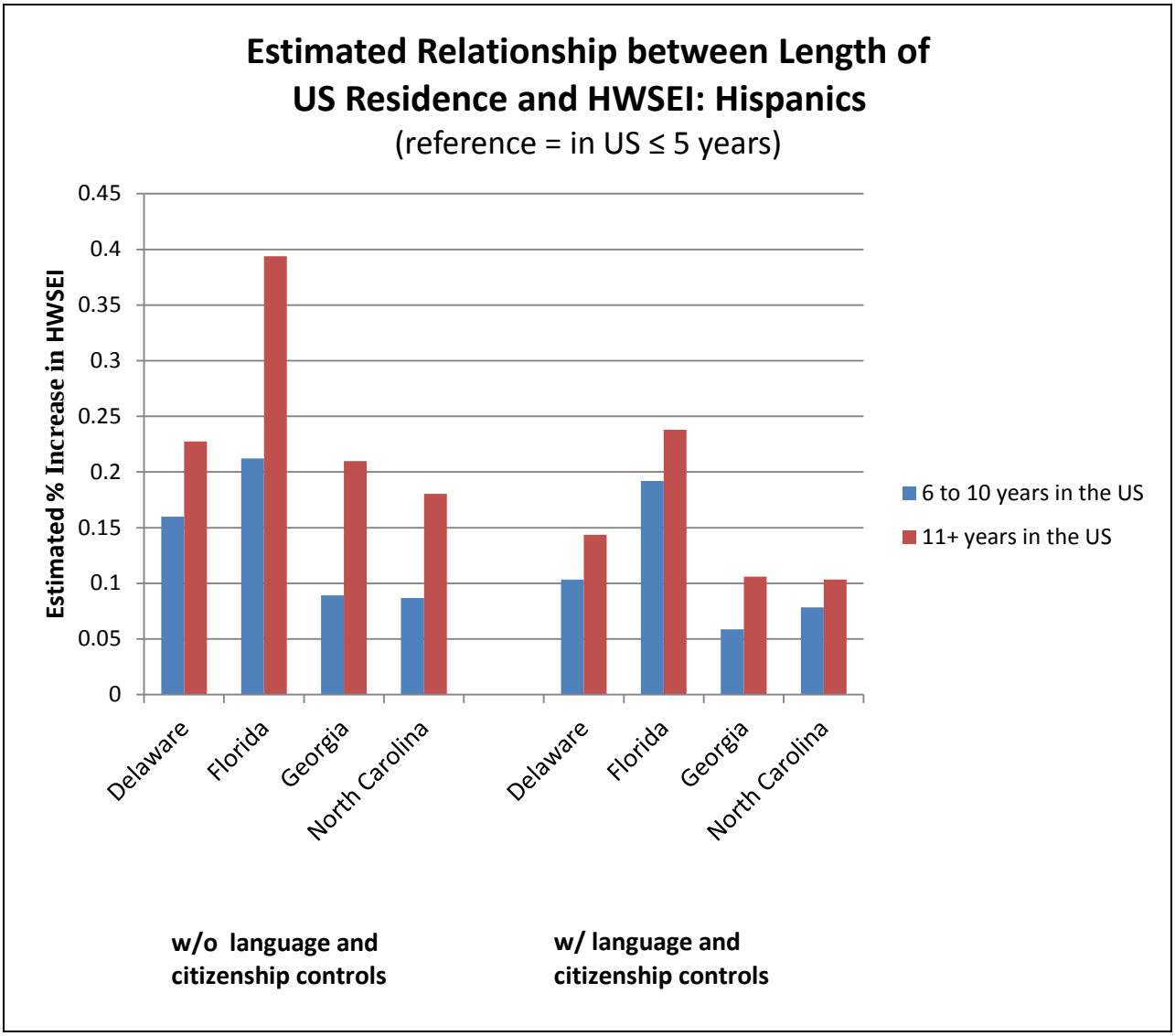

Figure 3.3 Estimated Effect of Length of US Residence on Hispanic HWSEI

recently-arrived Latinos (in the US ≤ 5 years) as the reference group instead of whites. Figure 3.3 displays the coefficients for the two earlier-arriving Hispanic populations calculated with these revised specifications. Without controls for cultural capital, there is a strong positive association between years in the US and HWSEI and, aside from Delaware with its small sample size, all of the differences among residency categories are statistically significant ($p < 0.05$). Once the language and citizenship variables are included, the differentials recede and the trajectory of occupational attainment grows less steep. Some of the status inequalities, particularly those between the two longer-settled Hispanic groups, lose significance. The hypothesis that cultural integration accompanying contact with American society contributes to the economic advancement of Hispanic workers over time thus receives support.

Model 3 adds the human capital variables. The schooling coefficients mark out a stable occupational status gradient: each additional level of education translates into a higher expected HWSEI. An especially noteworthy pattern is that college graduates enjoy a 50 to 60 percent edge over high school dropouts in occupational attainment – the largest differential estimated in this analysis. As was expected, adjusting for educational variation leads to further diminution of whites' advantage in occupational standing. To take but one example, the gap between newly-arrived Hispanic immigrants and whites in Georgia falls from 25.2 percent to 15.8 percent. The limited schooling of many Latino workers thus appears to be another important factor inhibiting the group's socioeconomic progress.

Finally, Model 4 integrates the age and marital status variables. The passage of a year is predicted to increase HWSEI by 0.2 percent. In addition, workers with a co-resident wife hold jobs roughly 10 percent more prestigious on average than those of single workers – an indication that the marital wage premium is reflected in occupational standing. Hispanics' disadvantages

in relation to whites decline again with the incorporation of these variables owing to their comparatively young age structure and low marriage prevalence. Indeed, several of the Hispanic-white occupational attainment gaps are no longer statistically significant. HWSEI disparities between whites and African Americans diminish as well but retain significance. Interestingly, Latinos who have been in the US for more than a few years have a higher predicted status than black workers who they match on the full set of attributes. In fact, the differentials between the two earlier-arriving Hispanic groups and African Americans are significant in Georgia and North Carolina (results not shown).

DISCUSSION

Hispanics have recently begun to settle on a large scale in areas far beyond traditional gateway destinations in the Southwest. A major element of the dispersion process is the rapid growth of Latino populations in rural areas of the South and Midwest. Several studies have examined the integration of Hispanics into these communities with much attention given to their economic position in relation to indigenous local populations – both white and black. Nevertheless, these analyses taken together do not yield a cohesive picture of the incorporation of migrant labor into local economies. Some work suggests that Latino workers to a large extent perform jobs that natives (irrespective of race) avoid because of their low pay and difficult working conditions. However, there is also an indication in the literature that Hispanics are engaged in widespread job competition with long-term inhabitants, particularly working class African Americans.

With microdata drawn from the 2000 Census and 2008-2010 ACS, this study sought to evaluate these two scenarios (segmentation versus competition) in the nonmetro South, where the rural African American population is concentrated. The focus was on four states whose rural

counties have received an unusually large volume of Latino migration since the 1990s: Delaware, Florida, Georgia, and North Carolina. The results are fairly supportive of the segmentation hypothesis. The economies of these areas are characterized by substantial segregation of Hispanic workers from their white and black counterparts. Occupational differences between rural Hispanics and blacks are comparable in magnitude to those between whites and blacks. Furthermore, Hispanic-white occupational dissimilarity is consistently greater than white-black dissimilarity, which not only suggests considerable labor market segmentation between Hispanics and whites but also that Latinos hold a lower position in the South's economic structure than do African Americans. The relative isolation of Hispanic workers stems in large part from their heavy concentration in non-managerial agricultural jobs. Sizable minorities of Latino men are employed in farming, gardening, and related fields while typically only small proportions of whites and blacks are. This is consistent with Parrado and Kandel's (2008) argument that Hispanic migration to the new destinations is driven by growth in employment involving production of "fundamental goods and services" (p. 119). Still, non-trivial shares of the Hispanic population find work in a variety of other sectors, such as motor vehicle operation and sales. On average, Latino workers lag behind whites and blacks in occupational standing.

The multivariate findings provide evidence in favor of the two hypotheses concerning the compositional sources of Hispanic occupational attainment in the rural South. Baseline estimates reveal that Latino workers consistently fall below both whites and African Americans in predicted job status, but also that these inequalities contract with time spent in the US. Low levels of English proficiency, citizenship, and educational attainment among Hispanics can account for their disadvantageous labor market position to a substantial degree. In addition, the

acquisition of cultural capital appears to be an important underpinning of the upward trajectory in Latino occupational attainment.

The fully-specified models suggest that Hispanics residing in the US for more than five years are moderately disadvantaged in occupational standing relative to whites possessing the same set of observed characteristics yet exceed otherwise similar African Americans in this regard. That Hispanics and blacks do not achieve parity with whites in occupational prestige even after controlling for the demographic variables is perhaps not surprising. It can safely be assumed that most employers in the rural South are of European origin and a preference on their part for workers of the same ethnic and racial background should give whites an edge in the competition for jobs, all else equal. Why longer-settled Hispanic residents would have higher status jobs than African Americans is not so clear. It may be that the region's traditional anti-black prejudices are still expressed in the hiring process, leading to a noticeable preference for Latino labor. On the other hand, the frequent attribution of "soft skills" (Donato & Bankston, 2008) to Hispanic workers might encourage employers to favor them more than blacks with comparable observed traits.

Contrary to some of the claims made in the new destinations literature, these results do not indicate that African American residents of the rural South have been economically eclipsed by Hispanic newcomers. Rather, Latinos are presently clustered in the bottommost layers of the regional economic hierarchy, ranking below both whites and blacks on average. Moreover, their chances for upward mobility appear to be seriously constrained for the time being by a lack of cultural and human capital. In light of these findings, perhaps the most pressing policy issues pertaining to Hispanic economic integration are the needs and vulnerabilities that migrants experience as a result of their especially challenging circumstances of employment. More

attention should be given to the repercussions of work in poorly paid, unpleasant, and even dangerous jobs for their physical and psychological health. The sector in which rural Southern Hispanics are most heavily specialized - agriculture - is known to be one of the most hazardous for labor, and there is evidence that Latino farmworkers are subject to a variety of occupational injuries, including strains and sprains (McCurdy, Samuels, Carroll, Beaumont, & Morrin, 2003, p. 232).

Regardless, Latino migrants seem to realize major economic progress as their tenure in the US lengthens; the occupational attainment of those who have lived in the country for more than 10 years differs little from that of African Americans. Labor market competition between the two minority groups might therefore intensify as the proportion of the Hispanic workforce that has attained a measure of cultural integration rises. Under these circumstances, problems such as overcrowding in blue collar occupations and Hispanic-black economic rivalry are likely to assume greater importance. Consequently, policy makers concerned about social conditions in nonmetro communities should probably also begin to develop strategies for expanding economic and vocational opportunities for less-educated inhabitants of Southern new destinations (regardless of ethnic origins). Facilitating socioeconomic mobility in this manner may be critical to preventing the development of downward pressures on wages and ensuring the long-term well-being of the region's rural minority populations.

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